DOCUMENT RESUME

ED 186 755 CE 025 416

AUTHOR	Botterbusch, Karl F.
TITLE	The Use of Psychological Tests with Individuals Who Are Severely Disabled.
INSTITUTION	Wisconsin Univ. - Stout, Menomonie. Dept. of Rehabilitation and Manpower Services. Materials Development Center.
SPONS AGENCY	Rehabilitation Services Administration (DHEW), Washington, D.C.
PUB DATE	Sep 76
GRANT	DHEW-RSA-12-P-55307/5
NOTE	76p.
AVAILABLE FROM	Materials Development Center, Stout Vocational Rehabilitation Institute, University of Wisconsin--Stout, Testing: Testing: Menomonie, WI 54751 ($2.00)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	Achievement Tests; *Blindness; *Deafness; Guidelines; Intelligence Tests; *Mental Retardation; Occupational Tests; Personality Measures; *Psychological Testing; Reading Tests; *Severe Disabilities; Test Construction; Testing; *Testing Problems

ABSTRACT

Specific suggestions and guidelines are presented for modifying psychological tests so that they can be used to obtain results that are not distorted by the individual's handicap. Focus is on testing persons with sight, hearing, and academic problems with the indication that principles developed for this fairly high percentage of the severely disabled population are applicable to other handicapped persons. Part I suggests methods of communicating instructions and items to the client in a way that he will understand what is required of him. Conditions of blindness, deafness, and mental retardation are defined and general test modification suggestions made for each. Part II contains examples of how specific tests can be modified to meet the special needs of the disabled and examples of commonly used tests that can be used without modifications with one or more of the three disability groups. A test review outline is presented followed by twenty-one individual test reviews under the following headings: achievement batteries and reading tests, character and personality, intelligence, vocations--clerical, vocations--dexterity, vocations--mechanical, and vocations--interests. Part 3 briefly describes a few tests designed for the severely disabled. (JT)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED186755

The Use of Psychological Tests With Individuals Who Are Severely Disabled

by

Karl F. Botterbusch, Ph.D.

Materials Development Center
Stout Vocational Rehabilitation Institute
University of Wisconsin-Stout
Menomonie, Wisconsin 54751

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

R. Fry

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

September, 1976

Additional copies of this publication may be purchased from MDC for $2.00 per copy.

CE 025 416

This publication is intended to provide vocational evaluators and other professionals involved in assessing disabled persons with practical guidelines for selecting, adapting, and administering standardized psychological tests to individuals who have sight, hearing, and academic handicaps. As with any publication, there is the distinct possibility that the author may have overlooked some valuable source of information, missed some useful techniques, or reported what the reader regards as inaccurate information. Therefore, the Materials Development Center is asking all who read this publication to send us any comments and suggestions that you believe will help to improve possible future editions of this publication.

Introduction

Vocational evaluation is the process of assessing a person to determine the specific nature of his aptitudes, skills, characteristics, and work related behaviors. Most writers in the field generally list four major assessment methods: (1) situational assessment, (2) on-site evaluation, (3) work samples, and (4) psychological testing. Although the limitations of psychological tests for rehabilitation clients have been given as a major impetus for the development of other methods of assessment, Sankovsky (1971), Pruitt (1972) and Botterbusch (1974a) have found that psychological tests are widely used as an assessment technique and that evaluators felt a need to be better informed on test use.

As used in this publication, psychological tests include paper-and-pencil tests designed to measure academic achievement, intelligence, aptitudes, interests, and personality as well as apparatus tests that assess dexterity and manipulation. There are many types of tests intended for many purposes and yet all should be used in vocational evaluation in the same way as any other assessment technique -- to obtain accurate information about the client so decisions can be made. Like other evaluation techniques, testing should be carefully planned in advance; testing should be used only after the evaluator has (1) determined what information is needed by both the evaluator and the client to make vocational decisions and (2) with knowledge that a particular test or tests will provide the needed information. If the use of tests is carefully planned, the result can be useable, accurate information that will enable the client and the evaluator to identify and work toward the client's job goals. The purpose of this publication is to suggest methods by which psychological tests may be changed for certain severely handicapped groups so that more accurate information may be obtained.

There are three reasons why the evaluator should consider the use of psychological tests for the assessment of severely handicapped clients. The first reason for testing severely handicapped persons is the same reason for testing other persons. If properly used, tests can be an efficient way of obtaining information about a client's aptitudes, abilities, academic achievement, interests and personality. Because most group administered tests are inexpensive to purchase and score, they can provide this information in an economical manner.

The second reason for testing the severely disabled is that for some specific skills, tests may be the most practical method of obtaining information. For example, the use of tests to determine the degree of literacy is especially important if the client is being considered for a formal training program or general academic work. Some covert personality characteristics that might not be readily inferred from behavioral observations may be brought to the attention of the evaluator through the use of tests. This could play an important role in determining what work adjustment services are needed.

The final reason for testing the severely handicapped is to compare the client's performance with the most appropriate norm group, such as a group reading at the tenth grade level or workers employed in competitive industry. (The selection of the test and subsequently, the norm group(s) depend in part on the decisions that are to be made from the test results.) If the goal of

rehabilitation is to place the client in competitive employment, then all vocational evaluation techniques should compare the client's results with those employed in competitive work. We need to know how the client measures up against people who are competitively employed, who are in job training programs, etc. Careful selection of tests with appropriate norms is one way for the evaluator to get a good idea how his client compares with various non-disabled groups (assuming the evaluator selects a test with adequate norms and uses it properly). Such a comparison results in a more realistic evaluation of the client's potential.

Because the term "severely disabled" includes a large number of disabilities, it would be almost impossible to prepare a publication on the modification of tests for each disability. The sight, hearing and academic requirements imposed by the majority of tests do not allow all persons with problems in these areas to be accurately evaluated by tests. The purpose of this publication is to suggest ways to modify tests so that they can be used to obtain results that are not distorted by the individual's handicap. This publication will deal specifically with testing persons with sight, hearing and academic problems; three client groups making up a fairly high percentage of the severely disabled population. The principles and suggestions developed for these persons are applicable to other handicapped persons. Part I describes ways of selection and modification of tests for blind, deaf and academically mentally retarded persons. Part II describes tests commonly used in vocational evaluation and offers suggestions for selection, modification and use.* Part III briefly describes the few tests specially designed for the severely disabled.

Karl F. Botterbusch, Ph.D.
September, 1976

---

*The author wishes to thank Mrs. Barbara R. Hawkins who did the initial review of most of the tests presented in Part II.

Contents

Introduction i

Part I - Adapting Tests for Persons Who Are Severely Disabled 1

Blind 3

Deaf 9

Mentally Retarded 14

Part II - Modification of Tests for Persons Who Are Severely Disabled . . 19

Test Review Outline 20

Achievement Batteries and Reading Tests 22

Character and Personality 28

Intelligence 34

Vocations - Clerical 40

Vocations - Dexterity 46

Vocations - Mechanical 52

Vocations - Interests 58

Part III - Tests Designed Specifically for Persons Who Are Severely Disabled 64

References 67

Appendix A - Levels of Test Use 69

Appendix B - Addresses of Publishers 70

Part I

Adapting Tests for Persons Who Are Severely Disabled

The use of tests to evaluate individuals in the best of situations is not without problems; these problems are compounded when the evaluator administers tests to persons with sight, hearing, and academic deficiencies. As the evaluator tests individuals different from the group(s) the test was designed for and normed on, the problems in obtaining accurate results increase in both number and in complexity. Test instructions, item content and format, methods of answering items, and many other factors have been designed to make a particular test useful for a specific population. Changing the population of test users often requires changing the test procedures. Thus, evaluators must be willing to select appropriate tests and to modify tests to meet the needs of the different handicapped groups they serve. The purpose of Part I is to suggest methods of communicating instructions and items to the client in a way that he will understand what is required of him. This will ultimately give evaluators test results that are meaningful in making decisions.

The idea behind any change in testing materials is to separate the learning of the test instructions from actual performance on the test content, per se.* Learning means that the evaluator communicates to the client what the test instructions are and how he is to go about taking the test. Performance means the answers that the client gives to the test items. To have a client take a test before he is aware of what is involved, to have a client not understand the instructions, to have a client miss items because he cannot perceive them, to have a client "fail" a test because the format of the items was beyond his comprehension is to invalidate test results. Before the evaluator can measure the client's performance on a test, he must make sure that the client knows how to respond on the test and that he accurately perceives the test content. In short, the client's test score must not reflect how well he understood the instructions or could perceive the items, but how well the client "knew the answers" once he fully understood the instructions and the item content.

Although tests can be used and modified to make them more appropriate for use with the severely handicapped, there are several cautions that the evaluator will want to take before testing:

(1) There is a difference between changing instructions for better understanding and giving away answers. The purpose of using a test is to obtain accurate information about the client. The test user does not obtain accurate information by coaching the client on items that occur in the test. Of course, telling the client the answer or providing other help which permits the client to guess an answer results in completely invalidating test results. It is perhaps only natural to want the client to have a high test score or to have him look good on a test. However noble this goal may be, the purpose of any assessment device is to accurately measure the client's aptitudes, abilities, etc. Therefore, the purpose of testing is not to generate a high score, but to generate accurate information about the client's abilities. This cannot be done if the client is coached or provided with the answers.

---

*It must be emphasized that this separation of learning from performance applies to all evaluation techniques, such as work samples, situational and job-site evaluation.

(2) When administering tests with time limits it is important to realize that the severely handicapped may not be able to complete a test within the allotted time. For example, a blind person using braille does not read as fast as a fully sighted person. Because a handicapped person frequently takes longer to perceive the items on a test, the evaluator will have to make allowances for the time limits placed on many tests. At the same time remember that most test norms were developed for certain time limits and to change these time limits would distort the meaning for the norms. This conflict is not easily resolved; a decision to follow the time limits given in a test administration manual must be based upon the type of test and the purpose for giving the test. For example, if the purpose is strictly to compare the client's performance with a particular norm group, then the time limits should be followed. If the evaluator wants to obtain maximum performance, then the client could be given extra time, fully well knowing that the norms may not be entirely accurate.

(3) In giving a test battery (such as the General Aptitude Test Battery) or a series of different tests, the evaluator can reduce fatigue by scheduling breaks or by scheduling testing over several days. The problem of fatigue can also be reduced by giving the most demanding tests in the morning. For example, a mentally retarded person with low reading skills could be administered the ABLE (Adult Basic Learning Examination) in the morning and a less demanding interest inventory, like the WRIOT (Wide Range Interest-Opinion Test) in the afternoon. A single long test, such as the Gates-MacGinitie Reading Test that was designed to be administered in one sitting, could be divided into several parts and each part administered at a different time.

(4) The test items should be checked for content prior to administration. This is especially true for personality tests that are designed to bring out certain personality traits in non-handicapped persons. These same items used with a blind or deaf person could result in a different interpretation. For example, personality test items dealing with physical mobility ("I am afraid to travel alone," or "I do not like to drive a car") or social sensitivity ("I feel people look at me as if I were odd" or "I sometimes avoid people") may represent realistic concerns and fears for a handicapped person and, thus, are not to be taken as signs of a neurotic problem. Test items calling for specific visual (e.g., the colors of specific objects) or hearing (e.g., the sound made by a specific animal, etc.) knowledge should be carefully examined and evaluated. If such obviously inappropriate items exist, the evaluator should consider selecting a different test. If he chooses to use a test containing such items, the resulting score should be interpretated with these items in mind.

(5) Most tests used by evaluators are designed for group administration and should not be individually administered. Research studies on coaction (i.e., a group in which each person performs his own individual task at the same time and in the presence of others) have demonstrated that a "normal" person performs better when tested in a group (Dashiell, 1930; Noble, et al., 1958; Botterbusch, 1974b). This is true even when the group is as small as three persons. Because these results most likely apply to handicapped persons as well, it is usually best to test the severely disabled in small groups. Individual administration of a test designed for group administration may be considered if the client is extremely anxious and fearful of the testing situation. In these cases, anxiety may reduce his score. It may also be used if the client must communicate his answers in a way that would effect the answers of other clients.

(6) Any procedures used to change test administration or the tests per se should be carefully noted and recorded along with test results. Rather than merely reporting a score (or scores) and the name of the test, the evaluator should carefully note any changes made in test administration or in the format of the items. Observations of behavior during the testing period should also be made. If the evaluation report for the client is to contain specific test results, these should be interpretated in light of any changes that were made. For example, the results of a reading comprehension test could be accompanied by an explanation that the time limits were not followed because the evaluator wanted to know how well the client understood what he read and not just how fast he read.

In summary, although tests are useful for obtaining accurate information about severely disabled persons, they frequently have to be modified to meet the special needs of these groups. Tests can successfully be modified; however, the evaluator must be very cautious in their test use and interpretation.

The following pages give methods for modifying tests for persons who are blind, deaf, and mentally retarded.

Blind

Legal blindness is usually defined as having "vision in the better eye when corrected of less that 20/200 (American Medical Association, 1934, p. 2205)." Twenty/two hundred means the visually disabled person sees at 20 feet what a full sighted person sees at 200 feet. There are two not-so-formal definitions of blindness useful to the evaluator. The first, travel vision, depends a great deal on the individual and may be defined simply as the ability to walk, or use public transportation unaided. A second definition, used by the U.S. National Health Survey (1959), is the inability to read ordinary newspaper print with glasses. Of the three definitions given, the third has the closest relationship to the concepts of this publication, which defines blindness as the inability to perceive and read sentences, words, letters, numbers, equations, etc., in the form that they appear on a standardized test or test answer sheet. In testing visually disabled persons, the question is simply can the client see well enough to take a specific test in its original format. If not, the problem becomes one of modifying the test so that visual problems do not interfere with or effect the person's ability to perform on the test. In other words, we must make certain that test results reflect the client's skills, interests, aptitudes, etc. and not his visual handicap.

The client's life history may affect test results and should be taken into consideration during the entire process of test selection, administration, scoring and interpretation. The first and most obvious factor is the client's age at the onset of blindness. If a client has functioned "visually to an age where he had already established concepts such as shape, color, and visual aspects of the environment like clouds, he can use these concepts in the testing situation (Bauman, 1973, pp. 94-95)." Thus, a 23 year old client blinded in an accident (i.e., adventitiously) knows what a house looks like, and that trees are green in the summer. Whereas, a client of the same age who has been blind at birth or from early childhood may not know these concepts; his experience is totally different from the client who up to recently had normal vision. In short, the later in life that the client became blind the closer his experiences most likely would be to the normal population and the more likely he can respond to testing material having visual components.

The second factor which may affect test results is the tendency for the blind to be overly verbal. Raised in a world where hearing is usually the major source of sensation, an emphasis on speech is very common. For example, an early study by Holland (1936) compared normal, blind and deaf children in grades 3 through 6 on the Otis Classification Test (an "I.Q." test heavily weighted toward verbal material) and found that the mean score for the blind children was slightly higher than the mean score of the normal children. Both the blind and normal children were significantly higher than the deaf children. The author attributed these results to the ability of the blind children to pay close attention to verbal stimuli.

A third life history factor affecting test results is that blindness results in such a different set of experiences that the person is culturally different from the normal population. This is true even for a child reared in a middle class environment and especially true for minority group children and those reared in institutions. "Their life experiences have been limited or changed not only by the obvious effects of poor vision itself, but probably by many other factors, of which the following are only a few examples:

(1) Overprotection - In many cases family, friends, and even school staff have, out of genuine concern for the safety of the individual or out of pity or merely out of a wish to be helpful, done so much for the child that he has not had normal learning experiences . . .

(2) Exclusion - Within a school or even a college he may have been excluded from certain courses or extracurricular activities which are regarded as important learning materials for sighted students. . . This has an effect upon academic gains presumed to come from such classes, upon the individual's place in the school social structure, and upon his concept of himself and of blindness. The effects are found not only in tests of specific knowledge but in interest and personality measures as well.

(3) Lack of Appropriate Learning Materials - Particularly in the evaluation of achievement, the psychologist needs assurance that the child has had appropriate resources for learning. . ."

(Bauman, 1973, p. 96)

In conclusion, when testing blind clients, the evaluator must not only be aware of the perceptual problems that directly affect the mechanics of testing, but he must also realize the effects that this handicap has on the client's knowledge, skills and personality.

Specific ways of modifying tests for the blind are given below:

1. Use of Pre-Trials - Although not strictly a way of changing test materials, the use of pre-trials (also called pretesting orientation) can help the client become aware of exactly what is expected of him before he enters the testing situation. Pretesting orientation materials are given anywhere between a few days to a few hours before the actual test is scheduled and could begin with a leader directed group discussion on the topic of "why we are taking this test?" This will give the evaluator or test administrator a chance to answer questions and, hopefully, reduce anxiety prior to administration. Pretesting orientation

usually includes a mock test, whose purpose is to make the client familiar with the test instructions and procedures. This mock test should contain instructions exactly like the ones used in the real test and should include several items that are similar in format, content, and difficulty level to the real test. (The mock test MUST NOT include any actual items from the real test.) During and after the pretesting orientation the client would be able to ask questions about the testing procedure. Pre-trials also provide the evaluator with a chance to try out any modifications he might have made in testing materials prior to actual testing.

Perhaps the most widely used pretesting orientation materials are those developed by the U. S. Employment Service for use with its General Aptitude Test Battery (GATB). These consist of a guided discussion (Pretesting Orientation on the Purpose of Testing) using cartoons to explain concepts such as the difference between an aptitude test and a school test, tests as a sample of behavior, and provide information on test-taking strategies. This introduction to testing is supplemented with the Pretesting Orientation Exercises, which in reality is a mini-GATB. The Exercises contain brief sample tests using the exact instructions of the real GATB, a separate answer sheet, and test items similar to those on the actual tests. Also available is the Test Orientation Procedure (TOP) developed by the Psychological Corporation. The TOP consists of two booklets: (1) "How to Take Tests," containing instructions and examples of tests with a wide variety of item formats, and (2) "Practice Tests," with additional sample tests that the person uses for extra practice at home.

2. Large Print Tests - Large print tests may be used by the partially sighted. In modifying tests for large print, all client instructions and test items should be retyped in an easy-to-read format. In retyping items, be sure that there is enough space between each item to prevent confusion. Many tests use separate IBM or NCS (National Computer Service) machine scored answer sheets, which often cause problems for persons with no visual limitations. These answer sheets should be avoided. The client can respond to a large print test item by circling the correct response. If the facility has an IBM Selectric typewriter, they can try using "orator" type which has capital letters approximately 3/8 of an inch high. "Large type" typewriters are also available. Once the test has been modified and retyped, it will have to be reproduced. Photocopying and mimeographing are two common methods available to almost every facility; however, frequently the reproduction of materials using these methods is of poor quality. If the test is to be reproduced, the evaluator should consider the use of offset printing that is available at copy shops or through agency sources. Because copyright laws prevent reproducing test material, the evaluator must have written permission from the test publisher prior to duplication. (See Part III for a list of large print tests available from the American Printing House for the Blind.)

3. Braille - For clients who can read braille, special forms of braille tests can be ordered from the American Printing House for the Blind. As in the case of large print tests, these are mostly reading and mathematical achievement tests. If the facility has the resources to prepare and reproduce braille material, they can modify the instructions and item format for the client's benefit. The time periods for using braille tests must be extended because a person reads braille only about one-third as fast as a sighted person reads print. (See Part III for a list of available braille tests.)

4. Repeat Instructions to Administrator - One of the simplest ways of making sure that the client has understood the instructions is to have him repeat them back to the administrator in his own words. This enables the evaluator to become immediately aware of any misunderstandings on the part of the client. It may also give the client self-confidence to be told by the evaluator that he understands the directions. In a group test situation, it would become very lengthy and tedious to have each client repeat the instructions. This could be overcome by having a monitor for each client so that clients could repeat the administration instructions simultaneously to their respective monitors. A closely related technique is to have one client who knows the instructions explain them in his own words to the other clients. This could also be used to provide the evaluator with feedback for future refinements in the instructions.

There are two general strategies for having the clients repeat test instructions. The first is to have the evaluator read the entire set of instructions first and then to have the clients explain them back to the evaluator(s). Any practice items or exercises would be administered immediately after their instructions have been given. While the clients are taking the practice items, the evaluator should watch for signs of disinterest, anxiety, frustration, and confusion. When all have completed the practice exercises, he should carefully review the exercises and again answer any necessary questions. The second method of repeating instructions is to pause after each segment of the instructions, and have the clients repeat the instructions back to the evaluator. This method takes more time than presenting all instructions before client feedback, but it is more likely to yield increased comprehension if the clients function at a low level, lack test taking skills, or are extremely anxious. Following the completion of the instructions, the practice exercises should be administered, scored, and discussed.

5. Sort Test Items into Piles - If the test consists of items answered by "true" or "false," "yes" or "no," or other opposites, then each item can be typed in large print or translated into braille and placed on a separate card. After reading the question, the client places the card on the appropriate pile. When the test has been completed, the evaluator scores the test from the cards on each pile. This sorting method is most appropriate for personality and interest measures. Cross (1947) and Potter (1947) modified the Minnesota Multiphasic Personality Inventory (MMPI) for use with the blind. After each item had been typed in braille on a separate card, the clients read the items and placed each card in one of three piles: "true," "false," or "cannot say." Their reports indicated that the clients had no trouble sorting the items accurately. In using this sorting technique, it is critical that the items be numbered and that they be administered in order. Since tests like the MMPI are scored using many sets of "keys," hand scoring would be extremely difficult as well as very tedious. Once the client has finished sorting the cards, the evaluator can take the cards from each pile and fill out the standard, separate answer sheet for machine scoring. As a check for accuracy, the completed answer sheet should be rescored by a second person before it is sent to the scoring service.

6. Present Material Orally - One of the most commonly used methods of testing the blind is to present the material orally, either by reading aloud or by recording. If the test is to be administered orally, advance preparations must be made. First, the evaluator should check the content of the test for any words that are difficult for him to pronounce and then look up the correct

pronunciation in a dictionary. Second, the evaluator should carefully read the instructions and change any that are not consistent with the new method of test administration. For example, if the instructions in the test manual call for the client to read each test item and then mark the answer on a separate answer sheet, these should be changed to state that the test administrator will read the items and the client will record his answer with a braille stylus. The evaluator should change only those instructions that are absolutely necessary for administering the test. Of course, all revised instructions should be written and pretested before actual administration. The test items themselves are to be administered in a clear voice without sounding bored or tired. The number of each item should be read first and then each item should be read twice with a pause between items long enough for the client to record the answer.

If the material is to be read aloud each time the test is given, two additional steps must be taken: (1) If several persons are to administer the test, they should all agree on a common pronunciation of difficult words and (2) persons administering the test should not have accents that are not readily understood by the clients.

Test administration by tape recorder has several advantages over reading it each time: (1) It provides for greater consistency in administration. (2) It saves the evaluator from having to repeat a series of test instructions many times. (3) The use of recordings may save on personnel time. Instead of requiring both a test administrator and a monitor for a small group, the use of recorded instructions requires only a monitor. Clients should never be tested alone without a monitor present.

In recording the test instructions the evaluator should use good quality equipment. Instead of a cheap cassette recorder, a good quality reel-to-reel recorder should be used; this also makes editing easier. If the facility desires, the master recording can then be duplicated for cassette use. During test administration, the most obvious concern is to make sure that the clients can hear the recording. Distortion is another more subtle problem. Many cassette recorders distort the higher frequencies of the human voice; this is especially true when the volume is turned up to a high level. This can be partially compensated for by having a good quality cassette recording to start with and by trying to use the best audio equipment that is within the resources of the facility. In recent years there has been a tremendous growth in audio-visual self-instruction systems using programmed learning materials. If the facility has this type of equipment available, they might want to investigate its potential as a test administration device.

There are three problems with the oral presentation of test material. First, the client cannot go back to items he may have missed or wants to check again. Second, hearing someone read a test at a set pace or listening to a recording is often very boring. This is especially true for faster clients on a long test. Third, by reading a test with time limits, the evaluator is changing the conditions from those under which the test was normed. This presents problems of interpretation. Although these are problems, they are not serious enough to prevent the oral presentation of testing material from being one of the most effective methods for testing blind persons.

7. Recording Client Responses - In testing any client it is important to have procedures for accurately recording responses. Since blind persons

cannot use the standard separate answer sheets, other methods must be used. The easiest way of recording a client's answers is to have him speak the answer out loud. The evaluator records this on the appropriate standard answer sheet. However, this method is not problem free. Since the client is speaking his answers out loud, only one client can be tested at a time and individual administration of a group designed test should be avoided. Bauman (1973) points out that:

> While individual reading and oral answering of a test may be comfortable, it does deprive the testee of the privacy the sighted person has when he reads a test for himself and records his answer by paper and pencil procedures (p. 38).

There are other ways of recording the test responses of the visually handicapped. Multiple-choice, multiple-purpose answer sheets are available from the American Printing House for the Blind in both braille and large print (see Part III). The use of separate answer sheets is an economical way to test several persons at once. Since most standardized tests are designed and normed for separate answer sheets, the use of either braille or large print answer sheets is closer to the original norming procedures than are other methods.

Another method is the use of a typewriter or a stylus to record answers. The following paragraph describes the problems involved:

> The blind client who is comfortable with typing or braille may use either to indicate his responses. In group testing it is, however, important to keep in mind that the sound of the number of strokes typed or the number of punches made by the braille stylus can betray the responses of one client to another. Thus, a slow or dull person can easily take advantage of the quicker responses of another client to obtain the correct answers. This is particularly easy with true-false items. In typing, the difficulty may be avoided by having the client type only one letter "T" for "true" and "F" for "false." In braille writing, a solution is found in the use of "C" for "correct" and "I" for "incorrect" (each giving two clicks), to which may be added an "E" for "either," if provision is to be made for a doubtful response (Bauman and Hayes, 1951, pp. 26-27).

Many tests contain items that require the client to remember a series of words and then to record the appropriate response. Hayes (1939) gives examples:

> Which of these five things does not belong with the others -
> potato, turnip, carrot, stone, onion?
>
> If these items were arranged in order, what would be the <u>middle</u> one of the list:
> gallon, gill, bushel, quart, pint? (p. 85)

If the client is using a braille or large print separate answer sheet, he would merely record the number of the appropriate response. If a typewriter or stylus are used, the client would type or write the first letter or two of his response, thus saving the time and energy needed to write the whole

word. A similar method can be used for those sections of some reading achievement tests that ask the client to rearrange a jumble of words to make a sentence. Here the client is asked to record the first and last word and not the entire sentence.

Deaf

The blind person has trouble taking tests mainly because he cannot see the test materials. The client with a hearing loss or who is deaf has a more basic problem--in a verbal world he is not able to communicate very well because he cannot hear. In discussing what she calls the basic problem of deafness, Levine (1960) has written:

> Not to hear the voice is not to hear spoken language. Not to hear spoken language means that a preverbal child will remain in complete ignorance of this basic verbal tool for human communication and communion unless extraordinary measures are taken to teach him that there are such things as words, what words are for, how sounds are combined to form spoken words, how words are combined to form connected language, and how verbal language is applied not only to objects, people, activities, and the like but to all aspects of living, feeling, thinking and reasoning (p. 28).

The handicap of deafness, especially for those who are deaf from birth or early childhood, results in social isolation as well as communication difficulties. Thus, like the blind child, the deaf child grows up in a set of social conditions that are unique enough to be called a subculture (Mindel and Vernon, 1971).

The above paragraph was not intended to imply that all deaf persons are totally deaf from birth (i.e., profound congenital deafness). Hearing loss is a complex problem and can be discussed both in terms of physical loss and psychological loss. From a developmental point of view, a hearing loss becomes a handicap when it prevents normal auditory contact with the environment, especially when it prevents hearing conversation (Myklebust, 1964, p. 25). The two major variables affecting hearing loss in interpersonal communication are, the degree of loss, usually given in decibels, and the age of onset. The range of human speech is between a frequency of 250 and 4000 cycles per second; and between 50 and 65 decibels. Based on these numbers, four graduations of hearing loss are defined in terms of decibels:

> I. A loss of 30 to 45 decibels - At this level scanning and background functions of hearing are affected, resulting in impaired awareness and environmental detachment. The use of amplification and closeness to the speaker can overcome this degree of loss.
>
> II. A loss of 45 to 65 decibels - The loss of background-foreground use of hearing largely eliminates the scanning function of hearing and social relationships are clearly affected. Although the use of amplification makes conversation readily possible, conversation is essentially limited to one person or to a small group because all sound must be given equal attention. The person experiences considerable detachment.

III. A loss of 65 to 80 decibels - At this level both personal-social and general environment contact is difficult and the use of amplification is less satisfactory than in graduation II. There is a need for considerable reliance on other systems for monitoring, especially on vision and taction. Personal-social relationships are most satisfying when they are with others having deafness.

IV. A loss of 80 to 100 decibels - At this profound hearing loss level, amplification is effective mainly in maintaining intelligible speech and focusing attention to loud environmental sounds. The use of vision and taction is mandatory in maintaining homeostatic equilibrium. Most social relationships are with others having profound deafness (Myklebust, 1964, p. 119).

The age of onset is the second factor. All other things being equal, if the degree of loss is from 80 to 100 decibels and is sustained in infancy, the impact on all aspects of behavior can be assumed to be greater than if this degree of hearing loss occurred in adulthood. The age of onset can be divided into six stages:

I. Prenatal to 2 years - This group has the greatest affect in ability to communicate, with implications for impact on personality and emotional adjustment. Isolation is more apparent than in any other group and reliance on vision and taction may be marked.

II. From 2 to 6 years - If a child hears for at least the first two years, he benefits verbally as well as psychologically. After five years there is a noticeable benefit verbally.

III. School years - The language function is well retained for inner language purposes and in other ways. The greatest affect is on personal and social adjustment.

IV. Early adulthood - (18 to 30) - Basic personality patterns are not altered, although undesirable traits may be accentuated. Interruption of educational, vocational and marital plans is often severe.

V. Early to late adulthood (30 to 60) - The common problem here is occupational status; complete shift of career often follows the onset of the hearing loss. Change of friends and social group also occur frequently.

VI. Later life - Hearing loss in later life is viewed in terms of increased withdrawal and isolation, increased insecurity and emotional stress. Also they are threatened with mandatory retirement, lack of employment and the need for assistance (Myklebust, 1964, pp. 120-121).

Some conclusions and general testing guidelines can be drawn from the above. The first is to know the client's life history well enough to obtain some indication of how his hearing problem has affected his total development, especially his communication skills. Before any testing can occur, the evaluator will want to determine the ways of communication the client uses. Can he hear and understand speech in a one-to-one testing situation with or without the use of a hearing aid? Can the client use non-hearing methods of

communication? There are three major methods of non-hearing communication among the deaf. In lip or speech reading, the client obtains the content from careful attention to the speaker's lips, facial expressions, and throat movements during speaking. Sign language is an ideographic method of communication in which words and ideas are graphically made using standardized gestures of arms, hands, and body. The third, finger spelling, uses standard positions of the fingers of one or both hands to form letters of the alphabet, with words or sentences being spelled out in straight language. Some clients will use a combination of these methods. The evaluator who works with deaf clients must know these methods of communication as proficiently as the evaluator who works with Spanish clients must know Spanish. Thus, the first step in testing a deaf client is to have a good indication of how well he can communicate with you and you with him.

The second conclusion is very obvious--the deaf usually have a low level of language development. This affects testing in several ways. Because deaf students score several grades below their hearing counterparts on the standardized achievement tests (Furth, 1973), the evaluator should carefully determine the reading level of tests. Also, persons deaf since early childhood may know of the names of physical objects, colors, the meaning of action verbs and some adjectives, but he will usually have difficulty with prepositions, conjunctions, as well as complex sentence structure. Frequently the critical element of tests are not isolated words and phrases, but analogies, complex verbal reasoning questions, etc. On the other side of communication, talking or writing, problems also occur. Deaf clients frequently have difficulty in expression--either in writing or in some form of manual or spoken communication.

Because deaf persons rely heavily on visual cues, the evaluator must watch his own cues. Does the drop of the eyelids and relaxation of facial muscles imply boredom to the client? Could the pointing of a finger indicate a correct response? These visual cues are important to a deaf person as subtle changes in tone of voice are to the blind. However, the sensitivity to visual cues can also help the evaluator who is willing to use gestures and maybe even pantomime to get his point across.

A fourth conclusion was mentioned briefly in the opening paragraph of this section. The deaf may be seen as a culturally different group, especially those deaf since an early age. The lack of communication skills, social and often physical isolation in institutions coupled with different educational experiences are just some of the conditions which set the deaf apart. Many adults deafened in later years suffer from sensory deprivation. This implies that tests designed for the general population should be used with the same caution required in testing a person from outside the culture and that scores on some tests, especially personality tests, must be carefully interpreted. For example, some items on the MMPI unintentionally classify the deaf client as having neurotic tendencies:

A-35 My hearing is apparently as good as that of most people.
E-23 I am likely not to speak to people until they speak to me.
G-30 At times my thoughts have raced ahead faster than I would speak them (Hathaway and McKinley, 1943).

Specific ways of modifying tests for deaf persons are given below:

1. Use of Pre-trials - The section on the use of pre-trials for the blind (p. 4) is also applicable for the deaf.

2. Low Literate and Nonverbal Test Forms - One way of overcoming the lack of reading skills is to use tests requiring only basic reading achievement. Most tests designed for adults and senior high school students require a sixth or eighth grade reading achievement level. This does not mean that the client who has completed these grades can read at these levels. It means that the client must be able to read on the level reached by the average sixth or eighth grade student. Boatner (1965) and McClure (1966) tested 93% of the deaf students in the U.S., ages 16 and over, and found that 30% were functionally illiterate, 60% were at a grade level of 5.3 or below and only 5% achieved at a tenth grade or higher level. Wrightstone, Aronow, and Moskowitz (1963) reported the average reading achievement of 16 year olds was grade level 3.5 and that 80% were below a grade level of 4.9. These findings mean that the evaluator must usually test deaf and hard-of-hearing clients on tests requiring low reading levels. There are two ways to solve this problem with verbal material.

The first way is to use tests having low literate levels. During the last ten years in response to the needs of the disadvantaged, culturally deprived, and minority groups, many tests have been developed that do not require high levels of reading achievement. Some, like the Adult Basic Learning Examination (ABLE) (see page 22), are designed to measure reading and arithmetic achievement. A few tests have special low literate forms. One of these is the new Form E of the well-known Sixteen Personality Factor Questionnaire (16PF) (see page 32). Although designed for the disadvantaged, the 16PF's reading level of between grades 3 and 6 makes it appropriate for many deaf clients. The item format was also changed. For example, the older Form A used a three-choice item format:

I like to watch team games.

a. Yes b. Occasionally c. No

Form E uses a forced choice format:

Would you rather

play baseball or go fishing

In selecting low literacy tests or special low literacy forms of some tests, the evaluator should carefully check the grade level for which the test was designed. He should also check the items carefully. Some easy-to-read tests are designed for junior high or grade school groups; the item content would be too childish and most likely insulting to an adult.

The second way to solve the problem of low reading skills is to avoid verbal tests whenever possible. Nonverbal test material is most commonly available in general ability tests (i.e. "I.Q. Tests") and in some interest measures. In general ability tests, the assumption is that since the deaf are "nonverbal" test items that use matrices, mazes, visual analogies, etc. can accurately measure ability. One of the most widely used nonverbal tests with deaf persons is the (Raven) Progressive Matrices (Vernon and Brown, 1964). A much older nonverbal test of general ability is the Revised Beta Examination (see page 38). In locating nonverbal testing materials the evaluator must distinguish between nonverbal and nonreading. A true nonverbal test contains no words or items requiring a verbal response. Nonreading tests usually require the test administrator to read the verbal sections aloud while the client marks the answer in the test booklet or on an answer sheet. For example, in Test 4

of the Culture Fair Intelligence Test (see page 34), the examiner reads a word for each item aloud and the client responds by placing a mark under the named object.

3. Repeat Instruction to Administrator - As with testing the blind (see page 6 for a complete description), the client can be asked to repeat test instructions back to the test examiner, thus providing the examiner with feedback on how well the clients understood the instructions. Of course, the deaf client may use several methods to communication with the evaluator--speech, finger spelling, signs, writing, or even gestures. The evaluator must be flexible in how he obtains this feedback and on how he gives any additional instructions. Any method or methods that enable accurate communication are acceptable.

4. Sign Language and Speech-Readers - If the evaluator knows signing and is testing a group of persons who understand sign language, then the test may be administered by signing the instructions. Prior to actual administration, the test manual should be carefully reviewed for any potential misunderstandings and the instructions signed for practice (unless the evaluator is extremely fluent in signing). Because signing takes longer than regular speech and because the time limits for some tests may have to be changed, breaks should be scheduled and announced to the clients if the test plus instructions will take more than two hours. During the signing of the instructions, the evaluator should also speak the identical instructions aloud, for the benefit of those clients who speech-read. In speaking to speech-readers, Levine (1962) lists the following suggestions and cautions:

a. Make certain mouth and face are clearly visible at all times
b. Speak clearly and naturally (no mouthing, shouting, slowdown)
c. Use nontechnical language and uninvolved sentences
d. Watch for signs of lipreading fatigue (drop in lipreading ability, restlessness, fidgeting with hearing aid, irritability, exhausted appearance)
e. Have pad and pencil handy to write key words or expressions (pp. 311-312).

If the evaluator cannot sign, he should use an interpreter who translates the instructions into sign language as the evaluator reads them aloud. This procedure has been used in the successful administration of the GATB to the deaf in several states (Botterbusch and Droege, 1972).

5. Timing - The usual test timing procedures are a verbal command to "Start" and a second command to "Stop". Obviously, these are not appropriate. When starting clients on a test, the evaluator may drop his hand or turn the lights off and on. When time is called, he may simply turn the room lights off and on.

6. Color Coding - Some paper-and-pencil tests and many apparatus tests can be color coded for greater understanding. For example, the Purdue Pegboard (see page 50) is a finger dexterity test requiring the use of first the right and then the left hand to place pins in small holes. Instead of having to explain the difference between right and left, the evaluator could paint each side of the board a different color and refer to the "red side" or the "green side" in his instructions.

7. Demonstration and Practice Exercises - Most test manuals contain a period of administrator demonstration, frequently followed by a client practice session. In demonstrating the proper motions required for dexterity tests, the evaluator should exaggerate the motions involved in turning a peg or picking up a rivet with tweezers. During the exaggerated demonstration, the clients should be informed that this is a demonstration and that their own motions should be more subtle. If the facility has video taping equipment, it may be useful to show a recording of the "proper" way to perform the task. Video taping may also be used to provide the client with feedback on their own performances during practice exercises. During practice exercises, the evaluator should carefully watch the clients to make sure that they are following instructions. He should carefully check all work at the end of the practice exercise and then answer any questions, provide additional demonstrations or whatever else is necessary to have the client understand the instructions.

Mentally Retarded

Blindness and deafness are problems of sensory organ malfunction and their effects can be rather exactly defined in terms like 20/200 vision and 80 decibel loss. With mental retardation, the problem of definition is not so simple. Retardation is commonly coupled with other problems, such as poor hearing and vision, speech defects and cultural deprivation. This is especially true in the more severely retarded when neurological and other physical problems almost always exist. Thus, a retarded person will frequently have more problems than just the fact that he learns slowly. There are two major ways of defining retarded persons.

The first is through the use of intelligence test results, such as the Weschler Adult Intelligence Scale (WAIS), the Weschler Intelligence Scale for Children (WISC) and the Standard-Binet Intelligence Scale (Binet). All of these well-constructed tests result in an I.Q. score that is used as the basis for determining mental retardation. An I.Q. of 70 is the most commonly used cutoff score in defining mental retardation and in several states is legally and educationally used as a definition of retardation (Robinson and Robinson, 1965). On the basis of the test results, the following classifications are often used:

I. Borderline (Binet I.Q. 68 to 83) - These are frequently able to achieve social and vocational adequacy if given proper training and job opportunities, although they usually remain at a low socioeconomic level. Most are capable of marriage and child rearing.

II. Mildly Retarded (Binet I.Q. 52 to 67) - With special education this group can complete fourth or fifth grade work and are often capable of competitive employment in unskilled jobs. Sheltered employment is also found among some of this group with problems in motor coordination, slowness, and lack of reading skills.

III. Moderately Retarded (Binet I.Q. 36 to 51) - This group is equivalent to the "trainable" group as far as formal education. Usually the emphasis is upon self-care rather than independent employment. Most adults can perform household tasks.

IV. Severely Retarded (Binet I.Q. 20 to 35) - At this level persons are very likely to have sustained neurologic damage which further restricts social behavior. These persons need special training in learning to talk and care for their own cleanliness and health needs. There is a minimum amount of independent behavior.

V. Profoundly Retarded (Binet I.Q. less than 20) - This group usually cannot protect and care for themselves and have sustained neurologic damage. As with the severely retarded, the death rate is very high (Robinson and Robinson, 1965, pp. 404-407).

The definition of retardation by I.Q. is valid and the behaviors and characteristics attributed to the various I.Q. groupings usually exist. However, problems in using I.Q. as the only way of establishing retardation have resulted in a definition of retardation that includes an emphasis on social maturity. Perhaps the most widely used of these new definitions of retardation is the one used by the American Association on Mental Deficiency (AAMD):

> A mentally retarded person is one who has significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior which are manifested during the development period (Nihira, et al. 1974, p. 1).

The use of the social definitions has had the effect of considering persons with I.Q.'s greater than 70 as mentally deficient. This is seen as an advantage by some writers:

> One advantage is the recognition that within the highly urbanized, competitive culture of the United States intellectual capacities which fall only 1 standard deviation below the mean often constitute an actual handicap in doing schoolwork and in achieving economic independence. The intellectual capacities required of a farmhand or a candy-wrapper might well be within the limits of the subnormal group, but the farm population is rapidly shrinking, and automation is taking over many of the simpler jobs previously performed in industrial centers by human beings (Robinson and Robinson, 1965, p. 38).

A major disadvantage of this new definition is that the concepts of social maturity and adaptive behavior differ from social class to social class, between social and ethnic groups, and between urban and rural populations.

The above definitions point out that mental retardation is not a simple concept and all retarded persons are not the same. They may differ in both gross and subtle ways from the normal population. This problem of definition is increased by the fact that while there are many known causes for retardation, it is seldom possible to place the responsibility on any single factor. A combination of genetic traits and hereditary diseases, prenatal conditions caused by diet, infections, drugs, etc., birth hazards, and finally psychological factors such as type of maternal care, social class, sensory deprivation and cultural background can result in retardation at birth or during early childhood. The vocational evaluator must be able to assess a wide range of persons who are classified under the heading of "mentally retarded" and must be able to deal with each individually. In testing a retarded person, the evaluator

must also realize the problems involved. Although a retarded client may be able to see and hear within the normal range and most likely has the coordination necessary to take a paper-and-pencil test, he still will have problems. The problem is complicated by the fact that because many borderline, mildly and moderately retarded persons differ more in degree than in type from the rest of the population, there may be a tendency not to take special steps in testing this group. However, many tests commonly used in vocational evaluation were partly designed for this group. If the test manual gives evidence of successful use with the retarded, little or no change is most likely required.

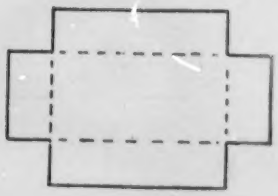
Specific ways of modifying tests for mentally retarded persons are given below:

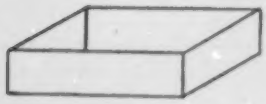
1. Use of Pre-trials - The section on the use of pre-trials for the blind (page 4) is also applicable for the deaf.

2. Simplify Instructions - Instructions for some tests are longer and more complex than is necessary. The evaluator should review the instructions prior to testing and change any words that are difficult to understand. Complex sentences could be reduced to simple sentences for better understanding. The test booklets should also be carefully reviewed. Some tests use fold-out pages, some use arrows pointing to new parts, and others even have the examinee turn the book upside down at certain times. Complex testing materials are best avoided. After checking and making any necessary wording changes, the next step is to see if additional instructions, visual aides, or demonstrations would result in increased clarity.

It is difficult to give guidelines for the preparation of additional instructions. The experienced evaluator has noticed that clients frequently question one particular part of the instructions or commonly make the same mistakes when performing either the practice exercises or the test proper. Another indication of not understanding the instructions are frequent mistakes found when scoring, such as having two or more responses blackened in on the answer sheet or random responses. Also an incomplete answer sheet could mean failure to turn the page in the test booklet. Discussions with clients after the test has been administered point out problem areas. Once these problem areas are identified, the evaluator can begin to improve the instructions. These new or changed instructions should be tested prior to actual use and should not result in changes in the time limits.

Visuals may also be used effectively. A large poster of the demonstration exercises and/or answer sheet will better help the evaluator explain the procedure. For example, the Employment Service's Nonreading Aptitude Test Battery (NATB) uses at least one poster for each subtest. If the facility has the resources and the time, they could also experiment with the use of overheads and slides that would make instructions clearer. It would also be very helpful to use several visuals demonstrating how to avoid certain common mistakes in test taking. One special use of visuals is in the measurement of spatial (or spacial) perception. These tests require the perceptual ability to visualize what three-dimensional space a flat, two-dimensional form would have if it were folded, usually along dotted lines:





It is sometimes extremely difficult to have a retarded client grasp the concept of visually "folding" the flat shape to produce the three-dimensional one. One way of overcoming this is to prepare large cardboard shapes for each of the demonstration items and then to slowly fold each one into three-dimensional shapes during the instruction period.

Another way of making instructions easier to understand is to use demonstrations. As with the deaf (see page 12), demonstrations and perhaps even video tape are useful in clarifying the motions needed for the proper manipulation of dexterity test apparatus.

3. Repeat Instructions to Administrator - This technique was described in detail on page 13 but requires one additional comment. This is a very simple, very realistic way of making sure that all clients understand the instructions. With retarded persons who often cannot remember complex instructions, it is advisable to have them repeat the instructions after each phase and then to summarize the entire set of instructions upon completion. Similar procedures with client demonstrations can be used for dexterity tests.

4. Mark Answers in Test Book - Many persons have problems using separate machine-scored answer sheets. The constant turning of the head from the test booklet to the answer sheet makes it easy to loose the place, thus increasing the chances of missing an item. The need to erase completely any wrong answer reduces the amount of time for completing additional items. "Skipping" an item can result in having the entire answer sheet incorrect. In addition, clients with visual defects may have problems rapidly shifting focus from the test booklet to the answer sheet; those with emotional problems could become distracted. In recent years many new tests have been developed and older ones have been modified to permit the recording of answers directly in the test booklet. If the desired test is available only in a separate answer sheet format, the client can take the test by marking the answers in the test booklet; if tested individually, he can respond verbally and the evaluator can record client responses on the answer sheet. If machine scoring is desired, the client responses can be transferred to the answer sheet from the test booklet by the evaluator. This recording should be checked by a second person.

5. Low Literate and Nonverbal Test Forms - Because retarded persons do not read at the grade levels required for the successful administration of many tests, the suggestions presented for the deaf (see page 11) are generally appropriate for the retarded. One additional point must be made. For many complex reasons, retarded persons often display social and verbal behaviors more immature than their physical age would indicate. This observation has led many persons to consider adolescent and adult retarded persons as overgrown children. This feeling coupled with the low literacy skills has led to the occasional use of testing materials that were designed for children. To administer a retarded client a reading test containing illustrations of smiling children digging in the sand and questions about Dick, Jane and Long Tall Sally going to school

on Puff the Magic Dragon is demeaning and insulting to the age and interests of the retarded adult. The evaluator should carefully review the item content of each test for adult level material as well as for low level language. Two examples of adult content in low literary format are the ABLE and Form E of the 16PF, both described earlier in this publication.

6. Color Coding - The suggestions given for color coding on page 13 are useful for the retarded.

Part II

Modifications of Tests for Persons Who Are Severely Disabled

The first part of this publication defined the conditions of blindness, deafness, and mental retardation, gave some reasons why testing these groups is often difficult, and presented suggestions for changing testing material to meet the specific needs of the disabled. This section contains: (1) examples of how specific tests can be modified to meet the special needs of the disabled and (2) examples of commonly used tests that can be used without modifications with one or more of the three disability groups. The tests in this section are not to be thought of as a recommended list. They are mainly examples. The tests contained in this section were selected on the basis of three criteria:

1. They are tests that are widely used in facilities and evaluation units.

2. Some of these tests have been cited in publications as being useful for the disabled.

3. All are level A or B tests as defined by the American Psychological Association (see Appendix A) and, thus, available to persons not specifically trained as clinicians or psychometricians.

In order to present these tests in a logical manner, a test review outline was developed. This outline is explained on the next page. The reviewed tests* are arranged alphabetically under the following headings:

A. Achievement Batteries and Reading Tests

B. Character and Personality

C. Intelligence

D. Vocations - Clerical

E. Vocations - Dexterity

F. Vocations - Mechanical

G. Vocations - Interests

---

*Many of the tests are described in greater detail in the publication Tests and Measurements for Vocational Evaluators, available from MDC for $2.00 a copy.

Test Review Outline

The name of the test, as listed in the Mental Measurements Yearbook and on the test manual, is centered on the top of the page. Any common names or abbreviations are given in parentheses following the formal name. The next line contains the form(s) of the test, if any, that were reviewed. The review applies only to the form(s) noted in the second line.

I. Description

A. Purpose - The specific traits, aptitudes, interests, skills, etc., that the test is designed to measure are given. The final score(s) are identified and the method of presentation given.

B. Format - The physical arrangement of the test and answer sheet, the type of items used, the way of recording answers are included here.

C. Length - This includes the number of items, the administration times, and the time limits, if any.

II. Considerations for the Handicapped

A. Reading Level - The minimum reading level in grade equivalents that the test manual states as being required for successful performance are given. If this information is not provided by the test manual, estimates of the grade level are made.

B. Recording of Responses - Are answers recorded on separate answer sheets, in the test booklet, given orally, etc.? The method given in the test manual for recording the examinee's response is described.

C. Information on Disabled in Manual - Does the test manual contain special instructions for handicapped persons; does it contain norms for handicapped populations; and does the manual state that the test has been successfully used with various disability groups?

D. Demonstration and Practice Items - The number and type practice items are given. This heading is to help the reader see how well the test separates learning from performance.

III. Usefulness in Present Form

A. Blind -

B. Deaf -

C. Mentally Retarded -

How useful is the test without any changes for each of these groups? Can the test be used as is? This section is a general evaluation of the appropriateness of the test for the three disability groups.

IV. Possible Modifications

A. Blind -
B. Deaf -
C. Mentally Retarded -

} Using the techniques described in the first section of this publication, how can each test be modified for the blind, deaf and retarded? Tests that cannot be modified for one or more disability groups are clearly indicated.

V. Available From - The name of the publisher is given. See Appendix B for addresses.

Achievement Batteries and Reading Tests

Adult Basic Learning Examination (ABLE)
(Forms A and B)

I. Description

A. Purpose - The ABLE is "designed to measure the level of educational achievement among adults" and to "assess achievement as low as the primary grade level as well as for use in evaluating efforts to raise the educational level of such adults." The ABLE yields six grade-equivalent scores: three in verbal skills (vocabulary, reading and spelling) and three in arithmetic (computation, problem solving and total).

B. Format - This group administered paper-and-pencil test contains three levels: Level I, grades 1 through 4; Level II, grades 5 through 8; and Level III, grades 9 through 12. Each level has two alternate forms. There are five subtests at each level: vocabulary, reading, spelling, arithmetic, computation and problem solving. Each test consists of multiple-choice items as well as items requiring the writing of a word or the answer to an arithmetic problem. All tests use adult subject matter.

C. Length - Total testing time for Levels I and II is about 2 1/2 hours; Level III takes about 3 hours. Several subtests are dictated. Only Level III has specific time limits.

II. Considerations for the Handicapped

A. Reading Level - The reading level for each of the three tests gets progressively more difficult.

B. Recording of Responses - At Levels I and II all answers are marked in the test booklet. Level III uses a separate answer sheet.

C. Information on Disabled in Manual - None present.

D. Demonstration and Practice Items - Each subtest has several demonstration and practice items for each level.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - Not useable in present form.

C. Mentally Retarded - Can be used without modifications.

IV. Possible Modifications

A. Blind - The parts of the ABLE that are administered orally can be used with the blind if responses are recorded using a braille answer sheet, typwriter, or in case of individual administration, given aloud for

the test administrator to record. The major problem with the test would be the arithmetic parts; while some of the arithmetic problems could be presented orally, many problems require computation using paper and pencil.

B. Deaf - Major modifications are needed in the orally administered parts. The items read by the examiner could be printed together with multiple-choice answers found in the test booklets. Clients who are unusually proficient in signing and/or lip reading could have the test administered to them by these methods.

C. Mentally Retarded - Although no modifications are necessary, individual administration may be considered. Extra practice items may also be necessary.

V. Available From - Harcourt, Brace, and Jovanovich.

Gates-MacGinitie Reading Tests (Gates-MacGinitie)

(Readiness Skills Test, Primary: A, B, C and CS; Survey: D and E)

I. Description

A. Purpose - These tests are "designed to measure group and individual reading achievement from kindergarten through grade twelve." Final scores obtained can be presented as a grade equivalent, percentile, or normalized standard score using the norm tables presented in the manual.

B. Format - There are eight tests in the series that cover from readiness skills in kindergarten to Survey F which covers 10th, 11th and 12th grade examinees. Survey D, which is designed for 4th, 5th and 6th grade students, is used in this publication as an example of the format.

There are three parts in Survey D: Speed and Accuracy, Vocabulary, and Comprehension. The Speed and Accuracy subtest has 36 items which objectively measure how rapidly students can read with comprehension. Short paragraphs of relatively uniform length are presented with either a question or incomplete statement at the end. The examinee has four choices from which to choose the word that best answers the question or completes the statement. This highly speeded subtest is carefully timed.

The Vocabulary subtest contains 50 items which sample the student's reading vocabulary. A word is presented, and the examinee has five choices from which to choose the word that most nearly means the same as the test word. Difficulty increases throughout the items.

The third subtest, Comprehension, contains 21 passages with words missing in 52 places throughout the sentences. For each blank space, the examinee has five choices for a word that most correctly fits into the sentence's meaning. They become progressively more difficult. The test is designed to measure the student's ability for understanding of prose passages.

The other levels of the Gates-MacGinitie Tests are similar in form for their respective grade level. The Readiness Test uses visual presentation of items by pictures for this lowest level of examinees. Test item content is essentially for children in lower level tests.

C. Length - In Survey D all three subtests are timed, 5, 15 and 25 minutes each, respectively. Another 10 to 15 minutes is also required for presentation and instructions.

II. Considerations for the Handicapped

A. Reading Level - Reading level for each test in this series is related to the grade level the test is designed for. Thus, the lowest level of reading is required for the Readiness Skills test (i.e., pre-first grade level).

B. Recording of Responses - There are both hand-scored and machine-scored forms available. The hand-scored forms use test booklets where the answers are marked in the test booklet.

C. Information on Disabled in Manual - None available.

D. Demonstration and Practice Items - Each subtest has several demonstration and practice items for use before timing on the actual test begins.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - This test can be used with deaf clients; the appropriate level of the test can be administered according to grade level.

C. Mentally Retarded - The lower forms of the test may be appropriate with mentally retarded clients. However, much of the item content is aimed at children.

IV. Possible Modifications

A. Blind - For the partly sighted, the entire test could be retyped using a different format; it could also be placed in braille. For those persons unable to read braille, the test items could be tape recorded or read aloud. Responses could be recorded by typing, or given orally to the examiner. Because this is a speeded test, the time limits would have to be adjusted. This adjustment would have to be based upon the experience of the examiner.

B. Deaf - Administration instructions for the test would have to be done through some method such as signing or lip-reading for the deaf client. Time calling would also have to be adapted, possibly using the switching of lights on and off to call time. Additional practice items may be required. The time limits would need to be thoroughly investigated.

C. Mentally Retarded - With individual administration and with additional practice items, the lower level of the tests should be able to be used for mentally retarded persons.

V. Available From - Teachers College Press

Peabody Individual Achievement Test (PIAT)

I. Description

A. Purpose - The PIAT is to "provide a wide-range, screening measure of achievement in the areas of mathematics, reading, spelling and general information." The device yields six final scores: mathematics, reading recognition, reading comprehension, spelling, general information and total.

B. Format - The PIAT is individually administered and none of the five subtests are timed. All items are presented orally and the examinee responds by selecting the appropriate number or illustration from four alternatives. The items are contained in two booklets. Each subtest is scored according to the number of correct items between a base (five consecutive correct responses) and a ceiling (five errors in seven consecutive responses). Results are given in grade scores, percentile ranks, age scores, and standard scores.

C. Length - The length of the test varies with the individual. However, the manual states this untimed, power test usually requires between 30 and 40 minutes to administer and score.

II. Considerations for the Handicapped

A. Reading Level - The Mathematics subtest requires the client to know numbers and some symbols, while the Reading Recognition subtest requires to know letters, identify words and to read and then pronounce words aloud. In the Reading Comprehensive subtest the client reads a sentence silently and matches it with the appropriate illustration. Reading level varies with the item. The general information section requires no reading.

B. Recording of Responses - Examiner records the responses on a score sheet.

C. Information on Disabled in Manual - No information given.

D. Demonstration and Practice Items - There are several practice items for each subtest. Because the test is individually administered and because of the easily understood format, there should be little need for additional practice materials.

III. Usefulness in Present Form

A. Blind - Not useful in present form.

B. Deaf - Not useful in present form.

C. Mentally Retarded - Very useful in present form.

IV. Possible Modifications

A. Blind - The usefulness of this test for the blind depends upon the extent of the person's visual disability. The high contrast black-and-white drawings may be perceived accurately enough to permit the use of the test with partly blind clients. Partly blind persons should be tried out on a few practice items from each section to determine if they can accurately perceive the items. Those that cannot should not be given the PIAT.

B. Deaf - The emphasis on hearing the examiner and the necessity of having to pronounce words correctly on certain parts of the test, place the deaf at a severe disadvantage on the PIAT. However, the visual content of the test has much to offer this group. The questions could be signed or printed on separate cards and presented by the examiner one-at-a-time to the client. The deaf person who does not speak very well could easily point to the correct answer. He could also respond by signing.

C. Mentally Retarded - No modification necessary.

V. Available From - American Guidance Service, Inc.

Character and Personality

California Test of Personality (CTP)
(Adult, Form AA)

I. Description

A. Purpose - The CTP is "designed to identify and reveal the status of certain highly important factors in personality and social adjustment." Its purpose is to "provide the data for aiding individuals to maintain or develop a normal balance between personal and social adjustment." The CTP is scored for six personal adjustment factors (self-reliance, sense of personal freedom, feeling of belonging, withdrawing tendencies, nervous symptoms) and six social adjustment factors (social standards, social skills, anti-social tendencies, family relations, occupational relations, community relations). Scores on these 12 factors are profiled with percentile ranks and standard scores.

B. Format - The test consists of 180 questions that are answered by "yes" or "no." There are 15 items for each factor listed above and each question asks about how the examinee usually thinks, feels, or does about certain actions and opinions.

C. Length - The test is not timed and examinees should be permitted to answer all items. The manual estimates that 45 minutes are needed for completion.

II. Considerations for the Handicapped

A. Reading Level - The manual states that the CTP has a fifth grade reading level.

B. Recording of Responses - Answers may either be recorded on a separate answer sheet or by circling "yes" or "no" in the test booklets.

C. Information on Disabled in the Manual - None available.

D. Demonstration and Practice Items - The test contains only two practice items and these deal with factual material (e.g., "Can you drive a car?") rather than with the feeling content of the rest of the items. Instructions for marking items are clearly given.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - Because of the simple yes-no format, deaf persons with the required reading skills could take the CTP.

C. Mentally Retarded - The major problems for use with the retarded would be the reading skills as well as some of the concepts expressed.

IV. Possible Modifications

A. Blind - The test items could be presented orally with the clients responding by typing "Y" for "yes" and "N" for "no." A braille answer sheet could also be used. Finally, each item could be presented in braille or large print on a card and the client could sort the cards into "yes" and "no" piles. The test items could also be tape recorded. Because of the personal nature of some of the test items, recording would not upset or embarrass some clients as much as having the examiner read each item. Finally, the examiner should carefully review all items for content that may reflect true problems with the blind (e.g., "Do you find it hard to meet people at social affairs?") and consider not administering these items. This procedure of reviewing item content should also be done for the deaf and mentally retarded.

B. Deaf - The CTP should not be difficult to administer to a deaf person with adequate reading skills. If the examinee cannot read, then the evaluator may attempt to reduce the level of the vocabulary. For example, words like "community" and "associates" could be changed to "town" and "friends." If the client cannot read the simplified items, the administrator may want to try to administer the test by signing.

C. Mentally Retarded - Reduce the level of the vocabulary as described for the deaf. The material could also be presented orally with the client responding either by marking an answer sheet or giving his answers orally.

D. Available From - CTB McGraw-Hill

Edwards Personnel Preference Schedule (EPPS)

I. Description

A. Purpose - The EPPS was designed as an instrument for research and counseling purposes, to provide quick and convenient measures of a number of relatively independent normal personality variables. Percentile scores are given for 15 personality variables: (1) achievement, (2) deference, (3) order, (4) exhibition, (5) autonomy, (6) affiliation, (7) intraception, (8) succorance, (9) dominance, (10) abasement, (11) nurturance, (12) change, (13) endurance, (14) heterosexuality, and (15) aggression.

B. Format - The EPPS consists of 255 items each having two short statements. The person selects the statement that best describes him. Items have been carefully selected to minimize the influence of social desirability. A separate answer sheet is used.

C. Length - This untimed group or individually administered test takes between 40 and 55 minutes to complete.

II. Considerations for the Handicapped

A. Reading Level - No reading level is given in the manual. However, since the test is designed for college students and adults, the reading level is fairly high.

B. Recording of Responses - Responses are recorded on a separate answer sheet.

C. Information on Disabled in the Manual - None available.

D. Demonstration and Practice Items - The directions contain two demonstration items accompanied by rather lengthy explanations of what the client's motivation should be for completing each item. The wording of the directions is complex and subtle and may be difficult to understand.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - Not useable unless the person has a high level of reading comprehension.

C. Mentally Retarded - Not useable because of high level vocabulary.

IV. Possible Modifications

A. Blind - The test could successfully be given to the blind client if administered orally, either in person or by a tape recording. However, the long length is a consideration in oral administration. The responses would have to be recorded either by the administrator, by

typing, or use of a braille answer sheet. Other modifications and considerations about the nature of the items are the same as those given for the CTP on page 28.

B. Deaf - The deaf client should have a higher than average degree of reading comprehension to successfully complete the EPPS. The EPPS would be difficult to modify for the deaf because of the sophistication of the vocabulary.

C. Mentally Retarded - May be used with the borderline retarded person if reading level were not too difficult. Test sophistication is necessary for use of the answer sheet.

V. Available From - The Psychological Corporation

Sixteen Personality Factor Questionnaire (16PF)
Form E

I. Description

A. Purpose - Form E is the new "low literate" form of the 16PF and like other forms of the 16PF, it is designed to "make available . . . information about an individual's standing on the majority of primary personality factors." Final scores are given on 16 bipolar primary factors: (1) reserved-outgoing, (2) less-more intelligent, (3) affected by feelings-emotionally stable, (4) humble-assertive, (5) sober-happy-go-lucky, (6) expedient-conscientious, (7) shy-venturesome, (8) tough-tender-minded, (9) trusting-suspicious, (10) practical-imaginative, (11) forthright-shrewd, (12) self-assured-apprehensive, (13) conservative-experimentary, (14) group dependent-self-sufficient, (15) undisciplined-self-conflict-controlled, and (16) relaxed-tense. Scores are reported in standard ten scores (stem).

B. Format - Form E uses forced choice items such as: "Would you rather play baseball or go fishing." The person selects the activity, feeling, preference, etc. that he would rather do or be. A few questions, however, require a reasoned, factual answer: "After 2, 3, 4, 5 does 6 come next or does 7 come next?"

C. Length - The 16PF Manual contains no information on the average time needed to complete Form E. The 128 item test is not timed.

II. Considerations for the Handicapped

A. Reading Level - The publisher estimates the test as requiring between a third and sixth grade reading level.

B. Recording of Responses - Answers are always recorded on a separate answer sheet, which can be either hand or machine scored.

C. Information on Disabled in Manual - No information is specifically given, however, Form E is designed for "personality evaluation for vocational and general guidance of culturally disadvantaged and intellectually limited persons."

D. Demonstration and Practice Items - There are three demonstration items which represent the different types of items. Instructions are clear and direct.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - Because of its low reading level, Form E should be useable with deaf who read fairly well.

C. Mentally Retarded - Persons reading about the fourth or fifth grade level should be able to take this test.

IV. Possible Modifications

A. Blind - The test could be presented orally and the client could type the answers, respond orally or use a braille answer sheet. Each item could be typed in braille on separate cards and then sorted into piles. The test items could also be reproduced in large print for partially sighted persons.

B. Deaf - For the client who can read, no changes are necessary.

C. Mentally Retarded - No changes are needed if the client can read the test items. For clients not able to read, the test could be given orally. However, this may bias some answers.

V. Available From - Institute for Personality & Ability Testing

Intelligence

Culture Fair Intelligence Test (IPAT or Cattell)
Scales 1, 2, and 3

I. Description

A. Purpose - The test is designed to provide a measure of general intelligence that is "relatively independent of school achievement, social advantages and various other environmental influences." A single final score is given in I.Q. and standard scores.

B. Format - There are three forms of the test available. Scale 1 is for use with ages 4 through 8 and retarded adults; Scale 2 is designed for ages 8 through 13 and average adults; Scale 3 for ages 10 through 16 and superior adults. Scale 1 has eight subtests, of which four are culture-free and can be given as a sub-battery for this purpose. Scales 2 and 3 have four subtests at a much more difficult level. All subtests in the three forms use pictorially presented material and directions must be followed as given by the administrator.

C. Length - This paper and pencil test can be group or individually administered in about 30 minutes, including instructions. Each subtest is timed on all of the three forms. The manual also recommends breaking the test into two sessions.

II. Considerations for the Handicapped

A. Reading Level - Not appropriate because this test was designed as non-verbal in nature. Scale 2 is also available in tape-recorded form.

B. Recording of Responses - Answers may be recorded in the test booklet or on a separate answer sheet. The Scale 1 booklet has no separate answer sheet.

C. Information on Disabled in the Manual - The manual states that Scale 1 is intended for use with mentally retarded adults. Studies have also demonstrated that this test can be successfully administered to disadvantaged, illiterate, deaf and others who are culturally, physically or mentally different.

D. Demonstration and Practice Items - Scale 1 instructions also include demonstration and practice items for the examinee for most of the subtests.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - The test would be very appropriate for the deaf client.

C. Mentally Retarded - Scale 1 would be most appropriate for the mentally retarded client.

IV. Possible Modifications

A. Blind - Because this test deals with visual perceptions, it is not appropriate for the blind client even with extensive modifications.

B. Deaf - The visual nature of the IPAT (except the Following Directions Test) make the test content very appropriate for the deaf person. The major problem would be in making sure that the person understands the instructions. These would have to be given to the client by signing or lip reading. An alternative for those clients who can read is to prepare simplified written instructions and then to place these on cards together with additional practice items. The practice items would be used to make sure the client understands the instructions. Because this procedure will increase administration time, the IPAT should be administered in two sessions.

C. Mentally Retarded - Scale 1 could be individually administered to the retarded person. There is also the possibility that severely retarded persons may require additional practice items.

V. Available From - Institute for Personality and Ability Testing

Peabody Picture Vocabulary Test (PPVT)
Forms A and B

I. Description

A. Purpose - This individually administered test is designed to measure verbal intelligence through the use of word definitions. The PPVT can be used with children and adults. Test results are given in I.Q., percentiles and mental age.

B. Format - Each item consists of four separate illustrations that are shown to the examinee as the examiner reads the stimulus word. The examinee responds by pointing to or saying the number of the illustration that most nearly gives the meaning of the word asked by the examiner. Not all items are administered to every person; the test is started at different points depending upon the age of the examinee. A basal level is first obtained at the point at which the examinee can answer eight consecutive items correctly. From this point the test continues until the person makes six errors in eight items.

C. Length - The length of the test varies with the individual. However, the manual states that "only 10 to 15 minutes are usually required to give this untimed test."

II. Considerations for the Handicapped

A. Reading Level - No reading is required.

B. Recording of Responses - The administrator records the responses on a score sheet.

C. Information on Disabled in Manual - No information given.

D. Demonstration and Practice Items - The test contains three practice items. Given the simple format and the individual administration, these items are sufficient.

III. Usefulness in Present Form

A. Blind - Not useful in present form.

B. Deaf - Not useful in present form.

C. Mentally Retarded - Very useful in present form.

IV. Possible Modifications

A. Blind - Because the test relies on pictures, it could not easily be modified for the totally blind. Because the test items are simple, clear black and white line illustrations, partially sighted persons may be able to use the test. Partially sighted persons should be tried out on a few practice items to determine if they can accurately perceive the items.

B. Deaf - The emphasis on hearing the examiner place the deaf at a severe disadvantage. However, the visual content of the test has much to offer the deaf. The questions could be signed or printed on separate cards which are presented by the examiner one-at-a-time to the client. The deaf person who does not speak very well, can easily point to the correct answer. He could also respond by signing.

C. Mentally Retarded - No modifications in instructions or format are needed. This test has been used successfully with the retarded. The only possible problem is that the illustrations for about the first 50 items often use children. These may not be acceptable to the adult mentally retarded person.

V. Available From - American Guidance Service, Inc.

Revised Beta Examination (Beta)

I. Description

A. Purpose - The test is designed "to serve as a measure of general intellectual ability of persons who are relatively illiterate or who are non-English speaking." A nonverbal estimate of intelligence is given as a single I.Q. score.

B. Format - The test contains six subtests. The first requires completion of mazes. The second test, number-picture substitution; the third and fifth tests, finding the wrong drawing in a series of illustrations; the fourth test, form perception; and the sixth test, identifying sameness of objects.

C. Length - This group test can be administered in about 30 minutes, including instructions. Subtests are timed from 1½ to 4 minutes. The test is also designed to be given individually when necessary.

II. Considerations for the Handicapped

A. Reading Level - No reading is required for this test; it is designed for illiterate examinees.

B. Recording of Responses - All responses are recorded in a non-reuseable booklet. Ability to hold a pencil, print numbers, and the dexterity to trace mazes are required for recording the responses.

C. Information on Disabled in Manual - There is no specific information given though the test is geared for lower functioning persons.

D. Demonstration and Practice Items - Each subtest includes several demonstration items and at least three practice items. More time can be spent on these preliminary items, the manual states, for those examinees who have problems grasping the instructions.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - Not useable in present form.

C. Mentally Retarded - This test can be used effectively with mentally retarded clients. The only problem that may arise is with the abstractness of some of the items in several of the subtests.

IV. Modifications

A. Blind - Because the Beta is a test that requires very fine visual discriminations, it would not be appropriate for use with the partly or totally blind.

B. Deaf - The visual content as well as the fact that the test can be individually administered, makes the items very useful for persons with hearing loss. The problem is in giving the instructions, which could

be signed or placed on cards for the client to read. The Beta includes several practice items for each subtest, together with instructions that the examiner carefully check the client's performance on each. The client who cannot understand signing and who cannot read could be administered the Beta if the examiner would carefully go over each practice exercise. Because the Beta is a highly speeded test, the examiner may want to experiment with the time limits.

C. Mentally Retarded - Demonstration and practice items can be gone over in detail with clients when the test is given individually, but otherwise no changes need to be made in this test.

V. Available From - The Psychological Corporation

Vocations - Clerical

Minnesota Clerical Test (MCT)

I. Description

A. Purpose - "This is a test of clerical speed and accuracy, used in the selection of clerical workers whose jobs depend upon speedy perception and rapid handling of numbers, letters and other symbols." The test yields two final scores, number checking and name checking, each reported in percentiles.

B. Format - The test consists of two parts (number and name checking), each having 200 items. For each subtest the examinee compares two items to see if they are identical or not:

79542 _____ 79524

John C. Linder _____ John C. Lender

C. Length - This highly speeded test can be administered to groups in about 20 minutes, including instructions. The number checking part takes 8 minutes; the name checking 7 minutes.

II. Considerations for the Handicapped

A. Reading Level - Because the test items are designed for perception per se and not reading, in theory, reading level should not be an important consideration. However, clients who can read most likely have a definite advantage.

B. Recording of Responses - The client places a check mark on the line if the numbers or names are identical. All answers are marked in the fold-out test booklet. There should be few problems with the method of recording answers.

C. Information on Disabled in Manual - No information present.

D. Demonstration and Practice Items - The client is instructed to read directions on the front page of the test booklet and then reads two samples of each type of item done correctly. Next the client completes four practice items.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - Should be appropriate for those clients who can read instructions.

C. Mentally Retarded - May be appropriate for borderline and mildly retarded persons.

IV. Possible Modifications

A. Blind - Because this is a test that measures visual perception, it is not appropriate for the blind even with modifications. If the evaluator needs a device for tactile perception for blind persons, he could use this test as a basis for a braille test of tactile perception.

B. Deaf - The oral instructions about timing and calling "time" could be given by using signing or lip reading. The "times" could be called by turning on and off the lights.

C. Mentally Retarded - Little changes are needed other than making sure that the clients understand the instructions. Extra practice items combined with checking may be used if needed.

V. Available From - The Psychological Corporation

SRA Clerical Aptitudes
Form AH

I. Description

A. Purpose - This test was designed to provide "effective measures of the most important general aptitudes necessary for clerical work." There are three final scores in addition to a total score: office vocabulary, office arithmetic and office checking, each reported in percentiles.

B. Format - The test has three parts. In the first part, vocabulary, there are 48 pairs of words which must be marked same, opposite or neither according to their definitions. In the arithmetic subtest, there are 24 items dealing with mathematical operations, and the examinee has four possible choices of answers plus a fifth alternative, "none of these." In the office checking subtest there are 16 three-letter words matched to 16 2-digit numbers in a key. In the test, these words are repeated in the 144 items and the matching number must be looked up in the key and found among the five possible answers.

C. Length - This highly speeded test could be given to groups in about 35 minutes, including instructions. The subtests take 5, 15, and 5 minutes, respectively.

II. Considerations for the Handicapped

A. Reading Level - Reading level is estimated to be fairly high since the test was designed for high school students and adults.

B. Recording of Responses - The client uses a separate answer sheet that fits into the test booklet. There should be few problems with this method of recording answers.

C. Information on Disabled in Manual - No information present.

D. Demonstration and Practice Items - For each subtest the examinee follows along as the administrator reads the instructions. Several demonstration items and from 2 to 8 practice items are then read and completed by the client. More practice items could be presented for the client who is not used to the testing situation.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - Should be appropriate for those clients who can read instructions.

C. Mentally Retarded - May be appropriate for the borderline retarded person with sufficient reading level for test items.

IV. Possible Modifications

A. Blind - Blind clients could successfully answer the subtest on word definitions if given orally, but the other two subtests would present difficulties, since they deal with visual perceptions. Thus, the test is really not too appropriate for the blind client.

B. Deaf - Should be appropriate for use if timing of the test were by some visual method, such as turning the lights on and off.

C. Mentally Retarded - If the instructions are gone over so the client completely understands them, test as is should be useable. Practice items may have to be added to, and arithmetic subtest may be too difficult.

V. Available From - Science Research Associates

SRA Typing Skills

I. Description

A. Purpose - This test is designed to measure speed and accuracy in typing. There are three final scores: total number of strokes, net speed and accuracy.

B. Format - The test form is given to each person and instructions are contained on the front page of the test. The examinee must first read the instructions and then practice by typing the instructions over again. The test itself consists of typing a four paragraph, 255 word business letter from a clear printed copy.

C. Length - The entire test can be administered to groups in about 25 minutes, including instructions. Examinees are given 7 to 10 minutes to read the instructions and practice; the timed exercise is exactly 10 minutes.

II. Considerations for the Handicapped

A. Reading Level - The reading level of the test is not given, but the client would have to be able to read at least on the eighth grade level in order to follow the directions and successfully type the letter.

B. Recording of Responses - The client does his practice exercise on scratch paper and the actual test is typed on the work sheet.

C. Information on Disabled in the Manual - No information present.

D. Demonstration and Practice Items - There is one practice exercise included in the test. It is possible that this could be typed several times, though the manual states that the practice effect may invalidate the score.

III. Usefulness in Present Form

A. Blind - Not useful in present form.

B. Deaf - The deaf person who can read the testing materials should be able to take the typing test with little or no changes in test materials.

C. Mentally Retarded - If the client can read the test, he should have no problems.

IV. Possible Modifications

A. Blind - Test instructions and content would have to be presented verbally. If a dictaphone or similar method is used, test timing and scoring would have to be modified. Additional practice exercises should also be considered.

B. Deaf - Timing of the test would have to be done by some other method such as turning the lights on and off.

C. Mentally Retarded - If client has sufficient ability, instructions could be given verbally, allowing client to repeat them as given. Practice exercises could be continued until client felt confident enough to take timed test.

V. Available From - Science Research Associates

Vocations - Dexterity

Hand-Tool Dexterity Test (Bennett)
1965 Revision

I. Description

A. Purpose - The test "has been constructed to provide a measure of proficiency in using ordinary mechanic's tools. The ability measured by this test is a combination of aptitude and of achievement based on past experience in handling tools." The score is the amount of time required to complete the task, and it is given in percentile form for one or more of eight different norm groups.

B. Format - An upright frame is placed in front of the examinee, and he must remove the nuts, bolts and washers from the left side and mount them on the right side. There are three different sizes of nuts and bolts and separate tools are required for each.

C. Length - The entire test can be administered and scored in 10-15 minutes.

II. Considerations for the Handicapped

A. Reading Level - There is no reading required.

B. Recording of Responses - The examiner times the client and records all responses.

C. Information on Disabled in Manual - No information present.

D. Demonstration and Practice Items - A demonstration is given by the administrator, but no practice is allowed.

III. Usefulness in Present Form

A. Blind - The test could be given to the blind person with revised instructions and where familiarity of tools is known.

B. Deaf - Not useful in present form.

C. Mentally Retarded - Very useful in present form.

IV. Possible Modifications

A. Blind - The blind person's hands could be guided by the examiner, who permits the client to carefully and systematically explore all parts of the frame, the nuts, bolts, and washers as well as the tools and their use. Although the manual does not permit a practice exercise, the evaluator should have the client practice prior to a timed administration. However, this practice should be taken into account when the results are interpreted.

B. Deaf - Directions would have to be given by signing or lip reading, and the examinee would have to indicate when he was finished. A complete demonstration by the examiner may also be necessary. Because one of the purposes of the test is to have the client perceive differences between the sizes of bolts, color coding would not be appropriate.

C. Mentally Retarded - Some extra demonstration may be needed by the client, and individual administration is advised.

V. Available From - Psychological Corporation

Pennsylvania Bi-Manual Work Sample

I. Description

A. Purpose - This test was designed to show an individual's capacity to integrate a number of unique motor traits into a well organized and smooth working pattern of performance. The assembly task "combines finger dexterity of both hands, gross movements of both arms, eye-hand coordination." Final scores are expressed as "transmuted" scores which are derived from the total minutes and seconds required to assemble and disassemble the bolts.

B. Format - The task involves putting a nut on a bolt and placing it in a board in front of the evaluee. One hundred and five nuts and bolts are in separate trays on either side of the board, and the time it takes to turn all the nuts onto bolts and place them in holes on the board is recorded. Disassembly is also required as part of the timed test. One administrator is required for at least every 5 examinees.

C. Length - No more than 10-15 minutes is required to administer the test, including directions.

II. Considerations for the Handicapped

A. Reading Level - No reading is required on this test.

B. Recording of Responses - Responses are indicated by task completion, examiner records and performance.

C. Information on Disabled in Manual - This test has also been normed on blind and partially blind people. A special supplement, Motor Skills Tests Adapted to the Blind, contains directions for use of this test with blind people, and is available from the publisher.

D. Demonstration and Practice Items - Examinees are allowed 20 trial assemblies before timing begins.

III. Usefulness in Present Form

A. Blind - This test is especially normed on blind people and specific instructions for use with the blind are available.

B. Deaf - Deaf clients should have few problems with this test.

C. Mentally Retarded - This test should be useful with the retarded examinee to test his manual coordination.

IV. Possible Modifications

A. Blind - No modifications necessary unless specified in the special instruction manual.

B. Deaf - Directions will have to be given through signing or lip reading, and time will have to be called through a method such as switching the lights on and off.

C. Mentally Retarded - Demonstration and practice assemblies and disassemblies may have to be gone over so that the examinee is familiar with the process and feels competent to begin. Individual administration is also a good idea.

V. Available From - American Guidance Service, Inc.

Purdue Pegboard

I. Description

A. Purpose - The Purdue Pegboard was designed to measure "dexterity for two types of activity: one involving gross movements of hands, fingers and arms, and the other involving primarily what could be called 'fingertip' dexterity." There are five separate final scores which include: (1) right hand, (2) left hand, (3) both hands, (4) right plus left plus both hands, and (5) assembly. Scores are in percentile form.

B. Format - The Pegboard includes pins, collars, and washers which are located in four cups at the top of the board. Each subtest involves a separate task. The right hand test involves placing pins into holes on the board for a 30 second period. Left hand involves the same process, but with the opposite hand. Both hands involves placing pins as fast as possible into holes with both hands. The right plus left plus both hands is obtained by adding the above three scores together. The assembly task consists of assembling pins, collars and washers on the board for a speeded time of one minute.

C. Length - This test should not take more than 10-15 minutes to administer and score.

II. Considerations for the Handicapped

A. Reading Level - There is no reading required for this test.

B. Recording of Responses - Responses are indicated by task completion and results are recorded by the evaluator.

C. Information on Disabled in Manual - None present.

D. Demonstration and Practice Items - The first two trials are especially for demonstration and practice purposes.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - The deaf client can be given this test with no problem except for changing how the directions and timing are given.

C. Mentally Retarded - The Purdue Pegboard can be given to the retarded client.

IV. Possible Modifications

A. Blind - The blind client would have to be allowed to use both hands to determine where to place the pins. The examiner could also guide the client's hands.

B. Deaf - Directions for the test would have to be given by signing or lip reading and the time would have to be called by some method such

as switching the lights on and off. The board may be color coded to distinguish right from left.

C. Mentally Retarded - Individual administration and sufficient practice during the first two trials should be assured for the retarded client.

V. Available From - Science Research Associates

Vocations - Mechanical

Bennett Mechanical Comprehension Test
Forms S and T

I. Description

A. Purpose - The test is designed to "measure the ability to perceive and understand the relationship of physical forces and mechanical elements in practical situations." There is one final score for mechanical comprehension in percentile form.

B. Format - The test is group-administered, with each examinee receiving a test booklet and separate answer sheet. Most of the 68 items contain two illustrations and a written question asking which illustration is easier to turn, move in a certain direction, etc. Each item deals with mechanical principles or general physical concepts. Examinees have three choices for each answer.

C. Length - The test should be able to be completely administered in 40 minutes, including directions and questions. The test itself has a 30 minute time limit.

II. Considerations for the Handicapped

A. Reading Level - The manual states the test falls within the "fairly easy" level of popular magazines. A sixth grade reading level would probably be necessary.

B. Recording of Responses - Examinees use a separate answer sheet.

C. Information on Disabled in Manual - No information present.

D. Demonstration and Practice Items - There are only two demonstration and practice items given after the directions are read aloud by the administrator.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - Should be appropriate for those clients who can read instructions.

C. Mentally Retarded - The test instructions are easy to comprehend, however, the concepts assessed by the test may be difficult for many retarded persons to grasp.

IV. Possible Modifications

A. Blind - Because the illustrations are small, with subtle shading and complex parts, partly sighted persons most likely will have difficulty taking this test. The test cannot be used with the totally blind even with modifications.

B. Deaf - If the client can read the items, there should be few problems. General instructions could be given by signing or lip reading. There are only two practice items; if more are needed, the examiner could use items from the first page of the alternate form. Although not stated in the manual, the 30 minute time limit is generous and would probably not have to be changed for a person who reads slower than normal.

C. Mentally Retarded - This test could possibly be used with a borderline retarded person, making sure the client could understand the instructions and by giving him extra practice items until he feels ready to begin the test.

V. Available From - The Psychological Corporation

Minnesota Spatial Relations Test

I. Description

A. Purpose - The test is "designed to measure speed and accuracy in discriminating odd sizes and shapes." The test is meant to relate to mechanical ability. A total score for the total time needed to complete the four boards yields the final score expressed as a letter rating.

B. Format - There are four form boards (A, B, C and D) used in this test and each is given separately. The examinee is instructed to put blocks in their proper places on the board where they fit. This is done for each of the four boards, which are timed separately.

C. Length - The test is administered individually and takes from 15 to 30 minutes, including directions, depending on the client.

II. Considerations for the Handicapped

A. Reading Level - There is no reading level required for this test.

B. Recording of Responses - The placing of the blocks constitutes the responses of the examinee. These are recorded by the evaluator.

C. Information on Disabled in the Manual - No information present.

D. Demonstration and Practice Items - There are no demonstration and practice items included in this test. The manual does state that Boards A and B are designed to allow carry-over of practice effect to Boards C and D, though all scores are used for the final score.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - The test would be appropriate for the deaf as long as the instructions are given in another manner other than orally.

C. Mentally Retarded - The mentally retarded should be able to take the test with little or no change in testing materials.

IV. Possible Modifications

A. Blind - Because the test deals with visual perceptions, it is not appropriate for the blind even with modifications.

B. Deaf - The instructions for the test would have to be given using either signing or lip reading.

C. Mentally Retarded - Board A could be used for practice for the client who is not used to the testing situation. The administrator should make sure the client fully understands the instructions before he proceeds with the test.

V. Available From - American Guidance Service

Revised Minnesota Paper Form Board Test
(Series AA, BB, MA and MB)

I. Description

A. Purpose - The test is designed "to measure those aspects of mechanical ability requiring the capacity to visualize and manipulate objects in space." The test measures "spatial imagery," which is related to general intelligence, thus, providing a nonverbal estimate of intellectual functioning. A single final score is given in percentiles.

B. Format - The test consists of "64 two-dimensional diagrams cut into separate pieces. For each diagram there are five figures with lines indicating the different shapes out of which they are made. From these, the subject chooses the figure which is composed of the exact parts that are shown in the original diagram."

C. Length - This highly speeded test can be administered to a group in about 25 minutes, including instructions. Actual test time is 20 minutes.

II. Considerations for the Handicapped

A. Reading Level - Although no reading is required to complete the test items, the client is required to read the instructions. No estimate of the reading level is given in the manual.

B. Recording of Responses - For Series AA and BB, the examinee records his answer on the test itself; series MA and MB require a separate answer sheet.

C. Information on Disabled in the Manual - No information available.

D. Demonstration and Practice Items - Items 1 through 4 are demonstration items and are completed as the instructions are read. Items 5 through 8 are practice items for the examinee.

III. Usefulness in Present Form

A. Blind - Not useable in present form.

B. Deaf - The deaf should be able to take the test with little or no change in the test materials, as long as the person can read directions.

C. Mentally Retarded - The borderline mentally retarded person should be able to take this test as long as he/she can comprehend the instructions. The administrator could go over the practice and demonstration items until the client feels confident enough to begin.

IV. Possible Modifications

A. Blind - Because the test deals with visual perceptions, it is not appropriate for the blind even with modifications.

B. Deaf - The administrator would have to make sure the client understood the directions through signing or lip reading, and the time would have to be called by some method such as turning the lights on and off.

C. Mentally Retarded - The abstract nature of the items may present a problem with the mentally retarded examinee. Additional practice items should be used.

V. Available From - The Psychological Corporation

Vocations - Interests

Minnesota Importance Questionnaire (MIQ)

I. Description

A. Purpose - The MIQ was designed to measure an individual's vocational needs and predict job satisfaction, thus, increasing the probability of job retention. The MIQ's final scores are presented as a scaled measure plotted in a profile form.

B. Format - There are 20 statements representing vocational needs used in the MIQ. By use of the paired comparison format, each of the 20 statements are paired with each other, making 190 items. The examinee must choose one statement from each pair that is most representative of a characteristic for his ideal job. The 20 statements are also presented separately, and the examinee is asked to indicate whether each is important or not important to him for his ideal job.

C. Length - The MIQ can be administered in about 40 minutes. The test is not timed.

II. Considerations for the Handicapped

A. Reading Level - The MIQ requires about a fifth grade reading level for completion.

B. Recording of Responses - A separate machine scored answer sheet is used. The MIQ may be hand scored, but the machine scoring is advised because a complete computer printout with the examinee's occupational profile is received.

C. Information on Disabled in the Manual - The manual does suggest that the MIQ can be recorded for use with clients who have low reading skills, and research has also indicated that the test is appropriate for use with minority and lower socioeconomic status groups.

D. Demonstration and Practice Items - A demonstration item is presented on how to record responses.

III. Usefulness in Present Form

A. Blind - Unless given orally or through some other means, the test is not appropriate for blind clients in its present form.

B. Deaf - The MIQ can be used easily with the deaf client who has reading skills.

C. Mentally Retarded - The higher level mentally retarded client may be given the MIQ.

IV. Possible Modifications

A. Blind - The MIQ can be presented orally by the administrator, by tape recorder, or in a braille form. Answers can be recorded by the administrator on the appropriate answer sheet. The techniques used with the California Test of Personality (page 28) are appropriate here.

B. Deaf - Directions may be given through signing or lip reading to the deaf client.

C. Mentally Retarded - The MIQ could be given orally to the retarded client or by tape with the client responding on an answer sheet or to the administrator.

V. Available From - Vocational Psychology Research

Minnesota Vocational Interest Inventory (MVII)

I. Description

A. Purpose - The MVII is "designed primarily for use with those persons who contemplate entering occupations that do not require a college degree, thus, it is an inventory of nonprofessional interests." An occupational interest profile is obtained from correlations between the two scales which are derived from the responses. There are 21 Occupational Scales and 9 Homogeneous Scales.

B. Format - The MVII includes 474 work activities. A forced-choice method is utilized, where the examinee must pick both the activity he likes best, and the activity he would least like to do, leaving the third item blank. A total of 316 responses, half like and half dislike are made. The work activities were chosen from various sources, including skilled tradesmen.

C. Length - The inventory can be administered in about 45 minutes. It is not timed.

II. Considerations for the Handicapped

A. Reading Level - The test was designed for use with students in ninth grade or above. The reading level is estimated to be about the sixth grade.

B. Recording of Responses - The MVII is available in booklet form where responses are indicated right in the booklet, or separate answer sheets are available also.

C. Information on Disabled in Manual - None present.

D. Demonstration and Practice Items - There is one demonstration item for use before the start of the test period.

III. Usefulness in Present Form

A. Blind - Not useful in present form.

B. Deaf - This test is appropriate for use with deaf clients with necessary reading comprehension skills.

C. Mentally Retarded - Because of the grade level the test was designed for (9th and above), the test may be too sophisticated for most mentally retarded clients.

IV. Possible Modifications

A. Blind - The test could be transcribed to braille, given orally or recorded on tape. The items could also be placed on separate cards and sorted into piles. Answers would have to be recorded either by the administrator, on tape or by use of a braille typewriter.

B. Deaf - With directions given through the use of signing or lip reading, the test can be given to the skilled deaf client.

C. Mentally Retarded - Higher level mentally retarded clients may have the test given orally to them (as it does not include professional occupations) and benefit from the scales obtained. Individual administration and time spent going over the three choices would most likely be necessary.

V. Available From - Psychological Corporation

Wide Range Interest-Opinion Test (WRIOT)

I. Description

A. Purpose - The WRIOT was designed to measure "as many areas and levels of human activity as possible." The interest inventory contains items which represent jobs ranging from unskilled through the highest professional level. It was designed to measure the interests that appeal to a wide variety of groups from children to disadvantaged and mentally retarded adults. The device contains 18 separate cluster descriptions of occupational areas (e.g., art, drama, office work, personal service, physical science and machine operation) and 7 work attitudes (e.g., risk, ambition, agreement, and interest spread).

B. Format - The WRIOT contains 150 three-choice items. Each item contains three clear black-and-white line illustrations of men and women of various racial groups engaged in various job activities. The drawings are contained in a spiral-bound 5½ by 8½ inch booklets. There is one item per page. The respondent uses a separate answer sheet to select the job he would most like to do and the job he would least like to do.

C. Length - There is no time limit; the average administration time is from 50 to 60 minutes in groups of 30 to 40 and 40 minutes if administered individually.

II. Considerations for the Handicapped

A. Reading Level - No reading is required for the test items. However, the client must be able to read "LEAST" and "MOST" on the answer sheet and to identify the letters "A," "B," "C" and the item number on the answer sheet and in the test booklet. Duplicate instructions are presented on the answer sheet.

B. Recording of Responses - The separate answer sheet is well designed and should be easy to use. If the test is administered individually, the examiner records the response.

C. Information on the Disabled in Manual - The manual contains special instructions for individual administration to "severely mentally or physically disabled persons." The client first identifies the best liked illustration by pointing or naming it and then picks out the least liked illustration in the same way. The administrator records the response on the answer sheet. No norms or special interpretation information are available for the handicapped.

D. Demonstration and Practice Items - Two sample items are included on the back of the answer sheet and not in the test booklet. Since one item is already marked, the client really has only one practice item. It is possible that additional practice items might be needed.

III. Usefulness in Present Form

A. Blind - Not recommended.

B. Deaf - The deaf should be able to take the WRIOT with little or no change in test materials. The method of giving instructions would, of course, have to be changed.

C. Mentally Retarded - The picture content and the special instructions for the retarded make this measure very appropriate for their use.

IV. Possible Modification

A. Blind - Not appropriate for totally blind even with modifications. Partly blind persons who can perceive the simple black-and-white line drawings should be able to take the WRIOT.

B. Deaf - Signing or lip reading could be used for those deaf clients who are not capable of reading the instructions on the answer sheet. Additional practice exercises may have to be constructed for some clients. No further modifications appear necessary.

C. Mentally Retarded - If separate answer sheet can be used, no changes are needed except possibly a few additional practice exercises.

V. Available From - Guidance Associates of Delaware, Inc.

Part III

Tests Designed Specifically for Persons Who Are Severely Disabled

Few tests have been designed for severely handicapped persons and these are best described as individually administered intelligence tests requiring a trained psychologist (i.e., APA Level C Tests, page 69). The tests designed for blind and deaf persons are typically adaptations of the WAIS or several of its subtests. Although there are few tests designed specifically for the mentally retarded, a wide variety of adequate testing materials are available for use with the retarded person. The WAIS, Stanford-Binet and many of the tests listed in Part II can be used with retarded persons. Part III will list and briefly describe some of the tests specifically designed for severely disabled persons.

Blind

The following tests are all individually administered and are tests of general ability:

1. Haptic Intelligence Scale for the Adult Blind - The Haptic was developed mainly from the performance parts of the WAIS and is intended to measure certain facets of intelligence that are not assessed adequately by verbal tests. The test yields scores in the following areas: digit symbol, block design, object assembly, object completion, pattern board, bead arithmetic, and a total score. The Haptic was designed to be used in conjunction with the WAIS verbal scale. (Available from: Psychology Research)

2. Standford-Ohwaki-Kohs Block Design Intelligence Test for the Blind - The blind client reproduces 17 designs by assembling blocks covered with fabrics of various textures. The test takes about two hours to administer and results in a single score percentile score. Norms are available for functionally blind and partially sighted clients. The test also emphasizes behavior observations before, during and after testing. (Available from: Western Psychological Services)

The American Printing House for the Blind (APH) sells braille and large type editions of many tests. All of these tests have administration instructions in print and many of the braille editions have been adopted by the APH Department of Educational Research. At present, the following tests are available. It is suggested that the reader contact the APH if additional information is needed.

Braille Editions

1. Cooperative School and College Ability Test (Forms 2A - 5A)
2. Cooperative Sequential Tests of Educational Progress (Forms 2B - 4B)
3. Diagnostic Reading Tests (Form A: Survey Sections for Lower and Upper Levels)
4. Iowa Tests of Basic Skills (Form 3)

5. Standford Achievement Tests (Forms A and B: Primary, Intermediate and Advanced Batteries. Form B Academic Skills)

Large Type Editions

1. California Achievement Tests (Form B, Level 3; Form A, Level 4)
2. Cooperative English Tests (Form 1A)
3. Cooperative Mathematics Tests (Form A)
4. Cooperative Primary Tests (Form 2BB)
5. Cooperative School and College Ability Tests (Forms 2A - 4A)
6. Cooperative Sequential Tests of Educational Progress (Forms 2B - 4B)
7. Gates-MacGinitie Reading Tests (Form 1, Primary A, B and C. Form 1M, Surveys D and E; Form 3M, Survey E)
8. High School Equivalency Diploma Tests
9. Iowa Tests of Basic Skills (Form 3, Levels E and F. Form 4)
10. Kuhlman-Anderson Test (Booklet B)
11. Standford Achievement Tests (Forms A and B: Primary, Intermediate and Advanced Batteries, Academic Skills)
12. Wide Range Achievement Test

The APH also have available general purpose answer sheets in braille and in 30 point type. These answer sheets have room for up to 80 items, with each item having five possible choices. Many of the tests given in Part II can use these answer sheets.

Deaf

The only test presently in general usage designed for deaf persons is the Hiskey-Nebraska Test of Learning Aptitude. Intended for deaf children between the ages of 3 and 16, instructions are given using a combination of speech, pointing and pantomime. The scores on the subtests (bead patterns, memory for color, picture identification, picture association, paper folding, visual attention span, block patterns, completion of drawings, memory for digits, puzzle block, picture analogies, and spatial reasoning) are combined into a single I.Q. score, usually interpreted as a measure of "book learning" capacity. (Available from: Marshall S. Hiskey)

Mentally Retarded

As stated above, although there are few tests in wide usage specifically for the mentally retarded, a wide variety of tests can be used with this group. These can be characterized as being low reading or nonreading, using simplified ways of recording responses, and having adult item content. Of the tests reviewed in Part II, the following are the best examples:

1. Adult Basic Learning Examination
2. Peabody Individual Achievement Test
3. Sixteen Personality Factor Questionnaire, Form E
4. Culture Fair Intelligence Test
5. Peabody Picture Vocabulary Test
6. Revised Beta
7. Most dexterity tests
8. Wide Range Interest and Opinion Test

References

American Medical Association. Resolution on the definition of blindness. Journal of the American Medical Association, 1934, 102, 2,205.

Bauman, M. K. Psychological and educational assessment. In B. Lowenfeld (Ed.) The visually handicapped child in school. New York: John Day Co., 1973.

Bauman, M. K. & Hayes, S. P. A manual for the psychological examination of the adult blind. New York: The Psychological Corporation, 1951.

Boatner, E. B. The need of a realistic approach to the education of the deaf. Paper presented at the joint meetings of the California Association of Parents of Deaf and Hard of Hearing Children, California Association of Teachers of the Deaf and Hard of Hearing, and the California Association of the Deaf, 1965.

Botterbusch, K. F. Test use in vocational evaluation. Vocational Evaluation and Work Adjustment Bulletin, 1974, 7(2), 6-10. (a)

Botterbusch, K. F. The relationship between need Achievement and conditions of testing on a manual dexterity test. Paper presented at the meeting of the American Psychological Association, New Orleans, August 13, 1974. (b)

Botterbusch, K. F. & Droege, R. C. GATB aptitude testing of the deaf: Problems and possibilities. Journal of Employment Counseling, 1972, 9(1), 14-19.

Cross, O. Braille edition of the Minnesota Multiphasic Personality Inventory for use with the blind. Journal of Applied Psychology, 1947, 31, 189-198.

Dashiell, J. F. An experimental analysis of some group effects. Journal of Abnormal and Social Psychology, 1930, 25, 190-199.

Furth, H. G. Deafness and learning: A psychosocial approach. Belmont, California: Wadsworth Publishing Co., 1973.

Hathaway, S. R. & McKinley, J. C. The Minnesota Multiphasic Inventory, (rev. ed.). New York: Psychological Corp., 1943.

Hayes, S. P. Practical hints for testers. Teachers Forum, 1939, 2, 82-93.

Holland, B. F. A study of the reactions of physically normal, blind and deaf children to questions in a verbal intelligence test. Teachers Forum, 1936, 9, 2-10.

Levine, E. S. The psychology of deafness. New York: Columbia University Press, 1960.

Levine, E. S. Auditory disability. In J. F. Garrett & E. S. Levine (Eds.) Psychological practices with the physically disabled. New York: Columbia University Press, 1962.

McClure, W. J. Current problems and trends in the education of the deaf. Deaf American, 1966, 18, 8-14.

Mindel, E. D. & Vernon, M. They grow in silence - the deaf child and his family. Silver Spring, Maryland: National Association of the Deaf, 1971.

Myklebust, H. R. The psychology of deafness (second edition). New York: Grune and Stratton, 1964.

Nihira, K., Foster, R., Shellhaas, M. & Leland, H. AAMD Adaptive Behavior Scale: Manual (1974 Revision). Washington, D.C.: American Association on Mental Deficiency, 1974.

Noble, C. E., Fuchs, J. E., Robel, D. P. & Chambers, R. W. Individual vs. social performance on two perceptual-motor tasks. Perceptual and Motor Skills, 1958, 8, 131-134.

Potter, G. S. A method for using the Minnesota Multiphasic Personality Inventory with the blind. In W. Donahue & D. Dabelstein (Eds.) Psychological diagnosis and counseling with the adult blind. New York: American Foundation for the Blind, 1947.

Pruitt, W. A. Task analysis of the vocational rehabilitation graduate major with an emphasis in work evaluation: A comparative study of two groups of work evaluators. Menomonie, Wisconsin: Department of Rehabilitation and Manpower Services, October, 1972.

Robinson, H. B. & Robinson, N. M. The mentally retarded child: A psychological approach. New York: McGraw-Hill, 1965.

Sankovsky, R. Characteristics of the VEWAA membership: 1971. Vocational Evaluation and Work Adjustment Bulletin, 1971, 4(2), 17-26.

U.S. National Health Survey. Impairments by type, sex, and age, United States, July, 1957-June, 1958. Washington, D.C.: Public Health Service, 1959.

Vernon, M. & Brown, D. W. A guide to psychological tests and testing procedures in the evaluation of deaf and hard-of-hearing children. Journal of Speech and Disorders, 1964, 29 (4), 414-423.

Wrightstone, J. W., Aronow, M. S. & Moskowitz, S. Developing reading deaf norms for deaf children. American Annals of the Deaf, 1963, 108, 311-316.

Appendix A

Levels of Test Use

The Casebook on Ethical Standards of Psychologists* lists the purchasing requirements for the tests. The sale of tests is restricted in accordance with principles given in the Ethical Standards. Eligibility to purchase tests is determined on the basis of training and experience. Registration forms from any of the companies are available upon request. The following classes are usually used:

1. Schools, Colleges, and Governmental Agencies

   Orders received on official purchase forms or by officially signed letters will be filled promptly - orders may have to be countersigned by professor who assumes responsibility, if graduate student, etc.

2. Business and Industrial Firms

   Level A -- Company purchase orders for tests commonly used for employment purposes will be filled promptly.

   Level B -- Staff member of firm must have completed advanced level course in testing at university or its equivalent in training under qualified superintendent.

   Level C -- Available to firms only for use by qualified psychologists, members of the American Psychological Association or person with Master's degree in psychology and appropriate training in field of personnel testing.

3. Consultants to business and industry, employment agencies, vocational counselors and psychologists in private practice. Registration is required. Approval for test purchase is granted or withheld. No tests are sold for self-guidance, nor to any agency engaged in testing by mail.

---

*Available from: American Psychological Association, 1200 Seventeenth Street, N.W., Washington, D.C. 20036.

Appendix B

Addresses of Publishers

American Guidance Service, Inc.
Publishers' Building
Circle Pines, Minnesota 55014

American Printing House for the Blind
P.O. Box 6085
Louisville, Kentucky 40206

CTB McGraw Hill
Del Monte Research Park
Monterey, California 93940

Guidance Associates of Delaware, Inc.
1526 Gilpin Avenue
Wilmington, Delaware 19806

Harcourt, Brace and Jovanovich, Inc.
Test Department
757 Third Avenue
New York, New York 10017

Marshall S. Hiskey
5640 Baldwin Street
Lincoln, Nebraska 68508

Institute for Personality
and Ability Testing
1602 Coronado Drive
Champaign, Illinois 61820

The Psychological Corporation
304 East 45th Street
New York, New York 10017

Psychology Research
Box 14 Technology Center
Chicago, Illinois 60616

Science Research Associates, Inc.
259 East Erie Street
Chicago, Illinois 60611

Teachers College Press
Teachers College
Columbia University
New York, New York 10027

Vocational Psychology Research
Elliott Hall
University of Minnesota
Minneapolis, Minnesota 55455

Western Psychological Services
Publishers and Distributors
12031 Wilshire Boulevard
Los Angeles, California 90025